Receiving Report

Da	ate: /4/3/3/		1	Batch No:	M120	1650	·
Su	ipplier: B/R		1	Dart P/O:	234	196	
Packing Slip: Invoice: Receipt: New Supplier	Yes No Yes No Cash Cr Yes No	_ _ _	Waybill At	Complete: pection	Yes	No No No	N/A N/A N/A
Discrepancies Part Number	Description	Quantity Ordered	Quantity Rec'd	Quantity Short	Quantity Inspected	Quantity Rejected	Comment / NCR Number
	C37A	2L2		200			
			<u></u>	Initials of	Receiver	QC12	
Production/Ad Date Received/Cos Initial						Locatio	n

H:\FORMS\Purchasing\approved purch\RECREPORT Rev F



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23495

Purchase Order Date 3/24/2014 PO Print Date 3/24/2014

Page Number 1 of 7

Order From:

B/E AEROSPACE INC 88289 EXPEDITE WAY CHICAGO, IL 33172 USA VU-BEA001

Ship To: DART AEROSPACE LTD

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

305-925-2600

FedEx PI collect

Buyer

Michael Gregoire

Customer POID

Customer Tax #

10127-2607

Terms Currency Net 30 USD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Uni	t Price	Extendea Price
3.	AN310-4 Y 2	Nut	4/2/2014 Yes 4/2/2014	FN	150.00 • Each	144/3/27	\$0.65	\$97.47
						Line Total:		\$97. 50
2	AN3C37A	BOLT	4/2/2014 Yes 4/2/2014	/	200.00 Each)	\$3.60	\$720.00

Line Total:

\$720.00

3 AN4-42A

Bolt

4/2/2014 Yes

4/2/2014

Fach

1.

\$1.15

S115 (a)

359

Co14-3-2



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23495

Purchase Order Date 3/24/2014 PO Print Date 3/24/2014

Page Number 4 of 7

Order From:

B/E AEROSPACE INC 88289 EXPEDITE WAY CHICAGO, IL 33172 **USA**

VU-BEA001

Ship To: DART AEROSPACE LTD

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

305-925-2600

Buyer

Michael Gregoire

FedEx PI collect

Customer POID Customer Tax #

Terms

10127-2607 Net 30

Currency

USD

FOB

FCA - (Free Carrier)

ELBOW

4/2/2014 FN

\$6.10

\$30 ~

\$75.00

11 MS20822-3D

Yes 4/2/2014

Line Total:

Line Total:

\$30,-6

12 MS21044-N08

Nut

4/2/2014

Yes

250.00

\$0.75

\$187

4/2/2014

Each

ANCHOR NUT

4/2/2014

100.00

MS21069L3

Yes

4/2/2014

Each

\$0.35

\$35.00

\$187.50

Line Total:

\$35.00



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23495

Purchase Order Date 3/24/2014 PO Print Date 3/24/2014

Page Number 5 of 7

Order From:

B/E AEROSPACE INC 88289 EXPEDITE WAY CHICAGO, IL 33172 USA VU-BEA001

Ship To: DART AEROSPACE LTD

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

	Contact Name Vendor Phone	305-925-2600		Buyer Customer POID	Michael Gregoire		
	Ship To Contact Ship To Phone			Customer Tax # Terms Currency	10127-2607 Net 30 USD		
	Ship Via: Ship Acct:	FedEx PI collect		FOB	FCA – (Free Carrier)		
14	MS21069L4	Nutplate	4/2/2014 Yes	50.00 (Each		00.1	\$50 :
	317		4/2/2014	GP 1	4-3-21		
				\mathcal{O}°	Line Total:		\$50,-10
15 	MS21920-20 LGO 50	Clamp	4/2/2014 Fr Yes 4/2/2014	225.00 L Each	/w/3/27	\$7.50	\$1.68**/
	,				Line Total:		\$1,68 7.50
16	MS21920-22	Clamp	4/2/2014 FN Yes 4/2/2014	Each	. 1.	\$15.00	\$3,000.00
					P 14-3-5+. Line Total:		\$3,00 0.00
	MS24694-S148	SCREW	4/2/2014 Yes	يا 25.00 Each	ladaha	\$15.00	\$375 (4)
2,4	1		4/2/2014	30.5.1	ره او المام		



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23495

Purchase Order Date 3/24/2014 PO Print Date 3/24/2014

Page Number 6 of 7

Order From:

B/E AEROSPACE INC 88289 EXPEDITE WAY CHICAGO, IL 33172 USA VU-BEA001

Ship To: DART AEROSPACE LTD

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

305-925-2600

FedEx PI collect

Buyer

Michael Gregoire

Customer POID
Customer Tax #

Terms

10127-2607 Net 30

Currency

USD

FOB

FCA - (Free Carrier)

Screw

4/2/2014 FN Yes

2,100.00

\$0.06

\$126 in

\$375.60

305

Yes 4/2/2014 Each

- nid 3 -

Line Total:

\$126.00

19 MS27039C1-08

SCREW

4/2/2014

Yes

4/2/2014

2,000.00

Each

\$0.30

\$600.00

3000

301

1

ine Total.

Line Total:

\$600.00



Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23495

Purchase Order Date 3/24/2014 PO Print Date 3/24/2014

Page Number 7 of 7

Order From:

B/E AEROSPACE INC 88289 EXPEDITE WAY CHICAGO, IL 33172 **USA**

VU-BEA001

Ship To: DART AEROSPACE LTD

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

305-925-2600

FedEx PI collect

Buyer

Michael Gregoire

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

USD

FOB

FCA - (Free Carrier)

71401-45

4/2/2014

0.00

Each

\$0.00

Ship Via:

Ship Acct:

No

4/2/2014

Procurement Quality Clauses A005 RIGHT OF ENTRY

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A032 PUBLIC LAW 101-592 FASTENER QUALITY ACT

A033 STATEMENT OF CONFORMITY/TEST RECORDS

FOR NAS, AN and MS FASTENERS

A040 NOTIFICATION OF QUALITY ESCAPE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER A043 RETENTION OF QUALITY DOCUMENTS 5014-3-27

Line Total:

\$0.09

PO Total:

\$7,535.10

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explaination.

Change Nbr:

1

Change Date:

3/24/2014

M. Fregoer



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23495

LNE# QUANTITY U/M PART-NUMBER

CUST REF#

LOT-NUMBER

MANUFACTURER

CCODE MPR DATE EXP DATE

0502115-490

GREER STOP NUT / SPS 27687

Jason Lewis

Vice President of Quality

Inv # 03/25/14

03/25/14

GREER STOP NUT

PACKING LIST

SDS 481 McNALLY DRIVE - NASHVILLE, TN 37211

PREVENT FRAUD

Any alteration or misuse of this certificate, of any unauthorized rework or modification of the identified products voids all manufacturer's warranties, and may lead to civil damages and/or criminal penalties.

CUSTOMER NBR | 01-0001-00427568-0001

BZE AEROSPACE CONSUMABLES MANAGEMENT 9835 NW 14TH ST. MIAMI, FL. 33172 THE PRODUCTS THAT ARE COVERED BY THIS AGREEMENT ARE OF U.S. ORIGIN OR OTHERWISE SUBJECT TO U.S. EXPORT, AND OTHER FOREIGN TRADE CONTROLS. THE EXPORT, DEEMED EXPORT, THE EXPORT, OR RELEASE OF THESE FRODUCTS TO OTHER COUNTRIES OR PARTIES MAY REQUIRE THE PRIOR APPROVAL OF THE U.S. GOVERNMENT, DIVERSION OF THESE PRODUCTS FROM THE AUTHORIZED DESTINATION CONTRARY TO U.S. AND INTERNATIONAL LAW IS PROHIBITED. THE PURCHASER AGREES TO COMPLY WITH APPLICABLE LAWS AND REGULATIONS OF THE UNITED STATES, OTHER RELEVANT, JURISDICTIONS, AND PERTINENT INTERNATIONAL GREANIZATIONS PERTINING TO THE EXPORT, DEEMED EXPORT, RE-EXPORT, OR RELEASE OF THESE PRODUCTS. ANY VIOLATIONS OF THIS CLAUSE, AS DETERMINED SOLELY BY SPS TECHNOLOGIES AND OR GREER STOP NUT, SHALL BE DEEMED A MATERIAL BREACH OF THIS AGREEMENT.

CLAIMS FOR GOODS MUST BE MADE ON RECEIPT OF GOODS. NO MATERIAL ACCEPTED FOR RETURN > WITHOUT OUR PERMISSION.

FUBLISHED 05/29/13

ORDER NBR

081985~001

ORDER DATE

09/28/12

PAGE

3.

P/S # 081985001

BZE AEROSPACE CONSUMABLES

(MIAMI)

P 0 BOX 025263

MIAMI, FL.

MANAGEMENT

33102-5263

CUSTOMER P.O.		TERMS		SHIP FROM	SCHEDULE	DATE			5/29	13
OKCESO CARRIER CD/DESC	<u> </u>	CARRIER NBR	·	AT: REIGHT	105/29/1	REG	TERR	OKTESO CREP	REQ. [ATE
TEK ANY TRUCKING E	rian		COL COLLE			2751	52	11 411 42 444	09/28/	1.22
LNE. PRODUCT CODE	<u> </u>	DESCRIPTION		ALTERNATE C	ODE	QUANTITY	UM	UNIT PR	CE A	CT QTY
Q4 0502145 \	#0331- OVER 1 ACCT # SHIPPI CHEMIC SHIP V	150# SHIP FI 0149-0 MARK 50 LBS SHIP 081757	FED EX NATION T LIMIT 40 LI ICAL CERTS 10% 25000	ACT		1.25000	C			33,34
<u>\</u>		×1.5	d.5.			e e e e e e e e e e e e e e e e e e e				*
LOTNO. 0507:15-47	D 250	2115- 500	2502115-4	30		All parts	are shipp	ed free of me	rcury contar	nination

QUANTITY

3D3 WEIGHT

All damages exceeding price are excluded.

GREEN NYLON INSERT is a registered trademark of GREER STOP NUT

FREIGHT ·RECORD 3003 REV. 8/11

, AREA

BOXES

PREPD COLL

4E4

CARRIER

BILL OF LADING FREIGHT CHARGE Greer Stop Nut 481 McNaily Drive Nashville, TN 37211 Phone: 615-832-8375
 Fax: 615-331-5070
E-mail: greer@spstech.com

CERTIFICATE OF CONFORMANCE

Date of Certification: May 29, 2013
Sold To: B/E Aerospace Consumables Management
9835 NW 14th St
Miami, FL
33172
Purchase Order No: 0KTR80
Customer Part No: _AN310-4 Rev. 10 & NASM310 Rev. 1 Item No:001
Greer Part No: F22SC310-0428 Nomenclature: Nut, Plain, Castellated
Lot No/Serial No: 0502115-490 (Ref. 0502116-10R)
Manufacturing Date: 4-23-13
Material: 1137 Material Specification: AMS 5024H, ASTM A108-07 Material Supplier: Nelsen Steel Company
Mill Heat No: 20216060 Greer Steel Date: CJ644J
Procurement Spec: FF-N-836E Threads: MIL-S-7742 Rev. D Am. 1
Proof Load: 4,080 lbs. Tested To: 4,080 lbs. Sample Size: 5
Non-Destructive Testing: Magnetic Particle Inspection Specification: ASTM E-1444-11 Sample Size: 29 Magnetic Particle Inspection in accordance with MT2000 Rev. 14 DTD 5-31-12 as modified by MT69811 Rev. 5 DTD 5-5-10
Surface Finish: Cadmium & Yellow Chromate Specification: AMS-QQ-P-416 Type II Class 2 Rev. C
The products identified on this certificate have been manufactured, tested and inspected in accordance with, and unless noted above, conforms in all respects to he applicable drawings, specifications and/or standards. Complete reports of physical and chemical tests are on file for on site examination. If no specified ustomer quality level is required, goods conform to seller's quality level. Reproduction except in full is strictly prohibited without written approval of Greer Stop Nut. All damages exceeding price are excluded. Mercury free clause: We certify that no possibility exists for mercury contamination to occur during nanufacture, assembly or testing of parts on this contract. This document relates only to the items tested. Parts were manufactured in the United States of timerics. Sample plans are carried out to current standard/specification revision.
G and Green Nylon are Trademarks of Greer Stop Nut

Fran Glover
Quality Assurance Coordinator



Nelsen Steel Company 9400 W. Belmont Ave. Franklin Park, IL 60131-2898

Tel: (847) 671-9700

Fax: (847) 671-6833

PRODUCT CERTIFICATION

HEAT-LOT NUMBER 20216060

WORK ORDER 215347

SUPPLIER :

SALES ORDER / RLS

Charter Steel

095673 / 4

MELT SOURCE/NAFTA

Charter Steel / Yes

COUNTRY OF ORIGIN

U.S.A.

CAST METHOD

Strand (Billet)

SOLD TO Greer Stop Nut Inc. **481Mc Nally Drive** Nashville, TN 37211 USA

CUSTOMER P.O. 0012174652

CUSTOMER PART 0r23043

QUANTITY 9.865 LBS COILS LADING NO 3 00048813 SHIPMENT DATE 08/20/2012

SPECIFICATION

C04340H1137

.4340, Shape = Cold Drawn Hexagon, Grade = 1137, Length = 12' R, Grain Prac = Coarse Grain Practice, Silicon = .10 MAX, Restriced Chemistry = Charter Steel Only, Quality Level = STD, Testing = Mag Tested, Mechanical Tests, AMS 5024 Chem & Mech Only, Bundle max = 4000 lbs. Min. Red. Ratio 68:1

CERTIFICATION REQUIREMENTS

AMS 5024H Chem and Mech. Only

٠:				1.5	i de Cal			- 15 A.	C	hem	ical	· wir		14 % -277	<u>.</u>	11111	jákří L	60	· · · ·
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	ing. Takhin			1.41		Harry Jan	4					n dan Sanat	• (J 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		08 -		**************************************	. 18 . 1
	re Nile All de Cestal	A)						100000000000000000000000000000000000000		ંું, (V)01 -	ri 							j Ça

			Mechanic	al			
TEST		<u>UNITS</u>		HIG	H	LOW	AVERAGE
Tens		PSI		13700	10	137000	137000
Yield	Strength	PSI		11300	10	113000	113000
Elon	gation in 2"	%		1	4	14	14
Redu	iction of Area	%		4	.9	49	49
Brine	ell Hardness	Brin Hds		24	7	247	247

We certify that the above material during its processing or while in our possession was not exposed to mercury or any other metal alloy that is liquid at ambient temperature, that no welding or weld repair was performed on said material, that no Class I or Class II ozone depleting chemicals (ODC's) were used in the manufacture of said material or in any of its components or packaging, and that the finished product described herein was manufactured by Nelsen Steel and Wire L.P. and/or its agents in the United States of America. We further certify that all material cold drawn by Nelsen Steel and Wire L.P. meets or exceeds the requirements of ASTM A108-07 (Level 1) and/or SAE J403 for carbon steels and/or SAE J404 for alloy steels and their referenced documents (including ASTM A29-11a and ASTM A576-90b,2008) as a minimum. Also, all chemical and mechanical testing is performed by laboratories that have received or have applied for certification to ISO/IEC 17025-1999. Nelsen Steel's Quality Management System is registered to ISO 9001: 2008 via third party assessment. Manufactured in the United States of America.

End of Certification

We certify that the above metallurgical report of chemical analysis and/or mechanical properties is a true and correct statement of the information relating to the product(s) listed above and conforms to the applicable specifications as indicated on your order. WE FURTHER CERTIFY that the material described herein was monitored and controlled during manufacture in accordance with the "Nelsen Steel Company Quality Assurance Manual" in its most recent revision prior to our issuing date shown.

Certification given and subsici

Kenneth A. Koeppl, Quality Manager



EMAIL

1658 Cold Springs Road Saukville, Wisconsin 53080

(262) 268-2400

1-800-437-8789

FAX (262) 268-2570

A Division of Charter Manufacturing Company, Inc.

CHARTER STEEL TEST REPORT **Reverse Has Text And Codes**

Nelsen Steel Co. 9400 Belmont Ave. Franklin Park, IL-60131 Kind Attn: Ken Koeppl

	<u>*#1#.5*</u>	-34	
55645		PER PROPERTY.	
H05312R1137	a Maria been to	的例何是如金	Se CC
70033937		in the company	Chare
20216060	77.0	Editor	
2033242	Andrew Programme and the second	E SHOUGH E	
CG FMQ 17/32	1137 R CGP	Series .	
HR		PROGRESS.	244000
17/32			

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements,

Linh Cride: 1251	C/4:				Test	Results o	f Heat Lot	# 202160 0	30		
Lab Code: 125! CHEM %Wt	.39	MN 1.41	.008	S	,08 ,08	NI .05	CR ,08	MO TO,	CU .12	SN .008	V ,001
	AL 001	N; .0070	B .0001	7) .001	CA .0018	NB .001	SB .002	AS .005	PB .002		
JOMINY(HRE)	JOM01 56	JOM02 54	JO MO3 50	JOM04 40	JOMOS 33	JOM06 28	JOM07 27	JOMOS 26	JON09 25	JOM10 24	JOM12 21
	JOM14 21	JOM16 20:									

JOMINY SAMPLE TYPE ENGLISH = C DI = 1.73 CHEM. DEVIATION EXT.-GREEN =

of Tests

Test Results of Rolling Lot# 2033242 Min Value Max Value

Méan Value

NUM DECARE # 1 AVE DECARB # .003 REDUCTION RATIO = 221:1

Specifications:

Manufactured per Charter Steel Quality Manual Rev 9,08-01-08

Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:

Clistomer Documents: 1137-512 Revision = 5 Dates = 08-AUG-11

Additional Comments:

Charter Steel Cuyahoga Heights, OH, USA

Page 1 of 1

This MTR supersedes all previously dated MTRs for this order

Janice Barnard Manager of Quality Assurance 07/25/2012

Rem: Load1, FaxQ, Mail0

The following statements are applicable to the material described on the front of this Test Reports

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States. meeting DFAR's compliance.

2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.

3. Unless directed by the customer, there are no welds in any of the colls produced for this order.

4. The laboratory that generated the analytical or test results can be identified by the following key:

		B .	- 24	The state of the s				
Certificate Number	Lab Code	· · · · · · · · · · · · · · · · · · ·	Laboratory	Äddress				
Ó358-O1	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080				
0358-02	8171	CSSR/ CSSP	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080				
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457				
0358-04	125544	CSCM/ CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004				
9 °	•	; 	Subcontracted test perfo	rmed by laboratory not in Charter Steel system.				

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manuals.

Test	Specification	CSSM	CSSR/CSSP	CSFP	CSCIWCSCR
Chemistry Analysis	ASTM E415; ASTM E1019	X		, `	×
	ASTM E381	X			Х
Hardenability (Jominy)	ASTM A255; SAE J406; JIS 6056	X	() 	1	X
	ASTM E112	X	X	X	X
Tensile Test	ASTM E8: ASTM A370		×	X	×
Rockwell Hardness	ASTM E18; ASTM A370	X.	X	X	X
Microstructure (spheroidization)	ASTM A892		X	X	
nclusion Content (Methods A, E)	ASTM E45		X	,	X
Decarburization	ASTM E1077		X	×	ж

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/13,

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.

7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following testrictions:

alt may be distributed only to their customers

Both sides of all pages must be reproduced in full.

This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report,

9. Where the customer has provided a specifiction, the results on the front of this test report conform to that specification unless otherwise noted on this test report.





B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191

Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR

www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23495

LNE# QUANTITY U/M PART-NUMBER

16 EA MS24694S148

CUST REF#

LOT-NUMBER

MANUPACTURER

CODE MER DATE EXP DATE

R33547

PILGRIM SCREW (RI)

Jason Lewis

Vice President of Quality

ILGRI M

Screw Corporation

PACKING LIST

ARIZONA - 480-917-2500

SHIPPED PROM 259 DEXTER STREET and 120 SPRAGUE STREET PROVIDENCE, RI 02907

RHODE ISLAND - 401-274-4090

6/19/2013

BE

BILL TO: B/E AEROSPACE

CONSUMABLES MANAGEMENT

MIAMI FL 33102-5263 P.O. BOX 025263

SHIP TO: B/E AEROSPACE

CONSUMABLES MANAGEMENT

9835 NW 14TH STREET MIAMI, FL 33172

FedEx-Grnd-Recipient

OUR ORDER# ORD113487

TERMS

Net 30*DNI*033101490

FREIGHT SHIP VIA

SHIPPING DATE 5/31/2013

CUSTOMER PO#:

ONEB58

QTY

U/M

PART#

DRAWING#



EA

MS24694S148

NASM24694

2 Revision:

5/16-24 X 1-1/32 PH 100F ALLOY/Cd2 **NOT BEFORE M2M40NEB58**

LOT#:

R33547 QTY: 171.00

pc#428

I CTNS, TOTAL WT. 5.35 LBS WITH 0 ON BACKORDER

Compliant with DFARS 252-225-7009 Restriction on Acquisition of Certain

Articles Containing Specialty Metals

MFR C OF C

CHEM AND PHYS

MATERIAL AND PROCESS CERTS

DFARS COMPLIANT 252, 225-7009

CLAUSES A, A.I, A.3, B, C, E, H, P, U, V APPLY

LATEST REV 2

NO OVERSHIPMENTS

IF UNDER 150 LBS SHIP FEDEX GROUND ACCT# 0331-0149-0 MARK:

CERTIFICATE OF COMPLIANCE

We hereby certify that all items delivered on this invoice comply with all applicable drawing, specification, and purchase order requirements. Evidence of such is on file for review for a minimum of 10 years. All products manufactured by Pilgrim Screw are of domestic origin and have not come in contact with mercury while is our possession. Also all special processes were performed by approved sources at the time of manufacture. Shortage claims must be made within (5) days after receipt of the goods. Quality claims must be made within (30) days after receipt of the goods. Returns will not be accepted without a 'Return Material Authorization' number. All goods returned must have the freight prepaid.

MADE IN THE USA

Authorized Rep.

ILGRIM

Screw Gorporation

PACKING LIST

ARIZONA - 480-917-2500

SHIPPED FROM 259 DEXTER STREET and 120 SPRAGUE STREET PROVIDENCE, RI 02907

RHODE ISLAND - 401-274-4090

6/19/2013

BE

BILL TO: B/E AEROSPACE

CONSUMABLES MANAGEMENT

MIAMI FL 33102-5263 P.O. BOX 025263

SHIP TO: B/E AEROSPACE CONSUMABLES MANAGEMENT **9835 NW 14TH STREET**

MIAMI, FL 33172

OUR ORDER# ORD113487

TERMS

Net 30*DNI*033101490

FREIGHT SHIP VIA

FedEx-Grnd-Recipient

SHIPPING DATE

5/31/2013

CUSTOMER PO#:



QTY

U/M

PART#

DRAWING#

IF OVER 150 LBS, SHIP FEDEX FREIGHT ECONOMY ACCT 018757

DO NOT INSURE OR DECLARE A VALUE FOR THIS SHIPMENT

Schedule B#: 7318159000 ECCN #: 9A991d "NLR"

SHIPPING INSTRUCTIONS: LABEL ON OUTSIDE OF BOX

HONEYWELL SOURCE ACCEPTED:

STAMP IMPRESSION

DATE:

5/31/2013

****BOXES MUST NOT EXCEED 40 LBS EACH****

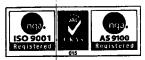
CERTIFICATE OF COMPLIANCE

We hereby certify that all items delivered on this invoice comply with all applicable drawing, specification, and purchase order requirements. Evidence of such is on file for review for a minimum of 10 years. All products manufactured by Pligrim Serew are of domestic origin and have not come in contact with mercury while in our possession. Also all special processes were performed by approved sources at the time of manufacture. Shortage claims must be made within (5) days after receipt of the goods. Quality claims must be made within (30) days after receipt of the goods. Returns will not be accepted without a 'Return Material Authorization' number. All goods returned must have the freight prepaid. MADE IN THE USA





CHEMICAL AND PHYSICAL CERTIFICATE



SOLD TO

B/E AEROSPACE CONSUMABLES MANAGEMENT MIAMI FL 33172

MADE IN THE USA

CAGE CODE: 47253

DOCUMENT # PSQR0001 REV 4

MANUFACTURED BY

PILGRIM SCREW CORPORATION 120 SPRAGUE STREET PROVIDENCE RI 02907 USA

TEL. 401-274-4090 FAX. 401-861-9890

CUSTOMER PO #/ CONTRACT # ONEB58

> LOT #/JOB# R33547

RAW MATERIAL HEAT # 553390

MS24694S148

PACKING LIST# PAC134857

MANUFACTURE DATE 4/16/2013

MATERIAL GRADE UNS G41300

PURCHASE QTY 171

CERTIFICATION DATE 4/18/2013

RAW MATERIAL SOURCE WIRETECH/CHARTER

SPECIFICATION/PART# - DRAWING # - REVISION

NASM24694

NOMENCLATURE/ITEM DESCRIPTION

5/16-24 UNF-3A X 1-1/32 PH 100' FL HD MACH SCREW

PROCUREMENT SPECIFICATION NASM7839

THREAD SPECIFICATION MIL-S-7742D AMD 1

MATERIAL SPECIFICATION MIL-S-6758B

OTHER TESTS

HEAT TREAT SPECIFICATION AMS-H-6875B/AMS 2759/1E

FINISH SPECIFICATION AMS-QQ-P-416C TYPE II CLASS 3

NOTES COMPLIANT WITH DFARS252.225-7009

QA TEST SUMMARY

MAGNETIC PERMEABILITY

N/A

HEAD STRUCTURE DECARBURIZATION

MAGNETIC PARTICLE INSP.

HARDNESS 28-32 HRC

UTLIMATE TENSILE LBS / P.S.I.

8884/153127

YIELD LBS / P.S.I.

N/A

TORQUE IN / LBS N/A

SHEAR LBS / P.S.I.

Test data will be on file for a least 10 years from the date of manufacture, or as agreed upon in the contract. This lot has been produced, sampled, tested, inspected, and marked in accordance with all contact and specification requirements, and the meterial compiles with all the contract and specification requirements. The product specified heron was not in contact with Mercury while in our possession. Class 1 ozone-depleting substances of the clean air amendment of 1990 were not used in the design, manufacture, or test of the item

Electronically counted quantity is within +/- 1% Specified.



SOLD TO

Pilgrim Screw 259 Dexter Street Providence, RI 02907 USA

CERTIFICATION

WORK ORDER 72321R

HEAT NO. 553390 SALES ORDER / RLS 832643 / 2 ISO 9001-2000 REGISTERED



MECHANICAL TESTING **CERT # 911.01**

USTOMER P.O. 4079	CUSTO	OMER PA	RT		QUANTITY 1,076	CARRIE Lbs	ERS 1	LADING NO 00081617	SHIPMENT DAT 01/26/2010
PECIFICATION P 4130, AQ, SKF ize:0.311/0.313	$\sim \sim \sim 10$	10E CE	AM & DEC	ARB FRE	E, SAIP ZI 70M, MIL-S	nc Phosph 6758B AM	ate, Lime S 6758	& Stearate Co	ating,
ERTIFICATION REC	UIREMENT	3							
				Chemic	cal Propert	ies			
C .30	si .26	Mn . 55	.007	. 010	Cu .18	Ni .19	.89	Мо .21	
				Physic	al Propert	ies			
Country of C	rigin Compliant	:			,				
				Mechan	ical Prope	rties			Results

Merchandise covered by this involce is warranted to be free from delects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum leatility for any claim, predicted upon delective merchandises is limited to replacement of it, or to repayment of its purchase price thereof, as we elect. Malerial out to specific length or size cannot be natural for credit and request for cannellation of such orders will not be repayment of its purchase price thereof, as we elect. Malerial out to specific length or size cannot be natural of credit and request for cannellations and those set forth on the reverse considered it manufacture has been commenced. Byself, by scoopstance of the newtrandes covered by the invoice, agrees to the foregoing terms and conditions and those set forth on the reverse considered it manufacture in the document may be-purchased as a follow under Federal statutes including Federal law. Title 18, Chepter 47.*

MYR Tech, Inc., metafficial SCERTIFICATION IS NOT ALLOWED UNLESS IN FULL.

With Tech, Inc., metafficial statistics by a sometime set of the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell laxification per ASTM E 3, deconharkation performed as per IP 140, metafficial statistics in the set of the s

Material is free of mercury, radium, or alpha contamination.

怡

arc\pri

02/11/2010



EMAIL

1658 Cold Springs Road

Saukville, Wisconsin 53080

(262) 268-2400

A Division of Charter Manufacturing Company, Inc.

CHARTER STEEL TEST REPORT Reverse Has Text And Codes

1-800-437-8789

FAX (262) 268-2570

Wiretech Incorporated 6440 East Canning Street Los Angeles,CA 90040-Attn: Janice Duran

Cust. P.O.	6225
Cust Part#	4130C1A130-C
Charter Sales Order	267902
Heat #	553390
\$hip Lot #	555924
Grade#	4130 R SK FG AQ
Process	SA
Finish Size	33/64

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

					Test	Results	of Heat Lo	t# 553390)			
Lab Code: 7388 OUTS, MELT S		EAT NI IM	N//D						i			
Chemistry	C	MN	P P	S	SI	Ni	CR	MO	CU	SN	V	
Wt%	0.30	0.55	0.007	0.010	0.260	0.19	0.89	0.21	0.18	0.008	0.001	
	AL	N	В	Ti	NB							
	0.025	0.0070	0.0001	0.001	0.001				ļ	•		
Jominy (HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOMOY	BOMOL	JOM09	JOM10	JOM11	JOM12
•	53	52	51	49	45	41	38	37	35	34	32	32
	JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32
	32	31	30	30	28	29	28	28	28	27	27	27

JOMINY SAMPLE TYPE ENGLISH = B JOMINY LAB = 0338-01
CHEM. DEVIATION EXT.-GREEN = N/R
MACRO ETCH SURFACE = 2 MACRO ETCH RANDOM = 1 MACRO ETCH CENTER = 1
AMS 2301 FRQ AVE = 0.00 AMS 2301 FRQ IND = 0.00
AMS 2301 SEV AVE = 0.00 AMS 2301 SEV IND = 0.00

Test Results of Rolling Lot # 400634

MAX ALLOWABLE DEFECT = 0.0000 QC DEVIATION EXT.-GREEN = N/R

NUM DECARB = 1 FREE FERRITE DECARB = 0.000 FREE FERR & PARTIAL DECARB = 0.001 CP SPHERO % LAB = 0.358-02 NUM SPHERO = 1 SPHERODIZATION (%) = 80.0 QC DEVIATION EXT.-PROCESSED = N/R

Specifications:

Manufactured per Charter Steel Quality Manual Rev 8, 12-05-07

Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:

Customer Document - COP 3010

Revision = M Dated = 12-MAR-2003

Additional Comments:

MEETS REQUIREMENTS OF SPECIFICATIONS AMS6370MAMS230 J

Charter Steel Saukville, WI, USA



Page 1 of 1

Janice Barnard Manager of Quality Assurance 08/18/2008

Fax number: (323) 721-2738

Rem: Load1,Mail0,Fax1

The following statements are applicable to the material described on the front of this Test Report:

- 1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States.
- 2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
- 3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
- 4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code		Laboratory	Address			
0358-01	7388	CSMD	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080			
0358-02	8171	CSRD/ CDPD	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080			
0358-03	123633	P4	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457			
0358-04	125544	csc	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004			
358.05	128003	CSDT	Charter Steel Detroit	23860 Sherwood Ave. Center Line, MI 48015			
•	•		Subcontracted test performed by laboratory not in Charter Steel system				

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD, CSC	ASTM E415; ASTM E1019
-ray Fluorescence Stainless and Alloy Steel	csc	ASTM E572
	CSMD, CSC	ASTM E381
Hardenability (Jominy)	CSMD, CSC	ASTM A255; SAE J406; JIS G0561
Grain Size		ASTM E112
	CSRD/CSPD, P4, CSC, CSDT	ASTM E8; ASTM A370
Rockwell Hardness	CSMD, CSRD/CSPD, P4, CSC, CSDT	ASTM E18; ASTM A370
Microstructure (spheroidization)		ASTM A892
Inclusion Content (Methods A, E)	CSRD/CSPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/09.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this repot are the true values measured on the samples taken from the production lot. They do not apply to any other sample.

7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:

alt may be distributed only to their customers

Both sides of all pages must be reproduced in full

8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.

9. Where the customer has provided a specifiction, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



Haves Heat Treating

Certification

Order No.: 79417

Date: 03/27/2013

Entry Date: 03/09/2013

Page: 1 of 1

To:

Pilgrim Screw Corporation 2/9 120 Sprague Street

Purchase Order No.: 65753

Packing List No.:

Providence

RI 02907

Material: 8740

Lockheed Martin Vendor Code LM0012655 United Technologies Vendor Code S02609

Honeywell Vendor Code D10013 Boeing Vendor Code 635554

Quantity	Part Number / Part Name / Part Description	Pounds
1,815	MS24694S148	41
	5/16-24 x 1-1/32 R33547	•

Vacuum harden, oil quench and air temper to obtain a hardness of 26-32 HRC in accordance with AMS-H-6875B and AMS2759/1E.

Insp. Type	Scale	Minimum	Maximum	Number	Other
Customer Rec	quirement	<u>s:</u>			
Final	HRC	27.	32.	•	
Verify	Process		•	•	
Results:					•
Final	HRC	29.	30 .		Sample size 8 pcs
Processed to t	he specific	ation.			
Verify	Process				
Chart (s) Verifi	ed, Proces	sed To Spe	cification.		•

All heat treatment processing performed on this order was accomplished using equipment that meets the requirements of AMS 2750. All heat treatment operations were accomplished in accordance with the requested/required heat treatment specification and all required verifications tests have been performed and documented. No unauthorized changes or deviations to required heat treatment specifications or procedures have been performed. Hardness inspection is in accordance with ASTM E18 and/or ASTM E384. All processes are Mercury free. Sample Inspection is in accordance with ANSI/ASQ Z1.4.

ISO 9001:2008 Certification 10-1427R AS 9100 Certification No. 10-1427R Cage/NCage Code #27790 Nadcap Certification #3162152413

Ted W. Yeaw Quality Technician Haves Heat Treating Inc.

Phone: 401-467-5201

Fax: 401-785-9190



New Method Plating Co., Inc.

43 Hammond St. Worcester, MA 01610 Phone 508.754.2671 Fax 508.754.1981 www.newmethodplating.com

QUALITY
MANAGMENT
SYSTEM
ISO 9001:2000
AS9100 REV. B
CERTIFIED

Established 1931



CERTIFICATE OF COMPLIANCE

COMPANY PILGRIMS	SCREW CORP.	DATE <u>4/8/13</u>					
PO#	LOT#	QUANTITY					
66013	R33547	1,815					
	ED IN ACCORDANCE WITH , Type <u>II</u> (ClearYellov						
	Hardness: <u>27-32</u> HRC	ļ :					
[X] NO BAKE							
[] Before plating, bake at 37	75+/-25F for 4 hours. After plating,	bake at 375+/-25F for 3 hours.					
[] Before plating, bake at 27	75+/-25F for 5 hours. After plating,	bake at 275+/-25F for 23 hours.					
[] Before plating, bake at 37	75+/-25F for 4 hours. After plating,	bake at 375+/-25F for 23 hours.					
Thickness Test Results Accept [X] Reject [] Min.: Spec0002 Read .00028 Avg .00032							
Adhesion Test Results Accept [X] Reject [] Inspected by: Puple Contlor							
	Certification						
requirements listed above, and th	he plating and conversion coating con ess control data is on file and is avail	ance with the contract and specification implies with those contract and lable upon request. We certify that these					
Signed: Ralph J Canalbo Jr.	Title: President	Date: <u>4.9.13</u>					

CERTIFICATION OF COMPLIANCE INSPECTION REPORT

MET-L-TEST LABORATORY

NADCAP APPROVED FACILITY

115 BROWNING STREET STRATFORD, CT 06615 TELEPHONE (203) 377-2429 FAX (203) 377-0517

WEBSITE: WWW.METLTESTLABORATORY.COM

MAGNETIC PARTICLE PENETRANT INSPECTION RADIOGRAPHIC INSPECTION

CUSTOMER: Pilgrim Screw Corporation

259 Dexter Street Providence, RI 02907

LAB NO. V7878	CUSTOMER P.O. 66085						
PART NO.		DESCRIPTION		QUANTITY			
P/N MS24694S148		R33547		*32* PCS			
P/N MS24694S150		R33395		*32* PCS			
P/N MS27039-5-07		R33375		*32* PCS			

M.P.I. PER ASTM E1444-12. I.A.W. NASM7839

MAGNETIC PARTICLE INSPECTION

MAGNETIC PARTICLE TECHNIQUES ARE ON FILE AT MET-L-TEST FOR REVIEW.

RADIOGRAPHIC INSPECTION

RADIOGRAPHIC INSPECTION TECHNIQUES ARE ON FILE AT MET-L-TEST FOR REVIEW.

PENETRANT INSPECTION

PENETRANT EMULSIFIER DEVELOPER PENETRATING TIME 30 MINUTES
EMULSIFING TIME 2 MINUTES MAX.
DEVELOPING TIME 15 MINUTES

NO PRE-PENETRANT ETCH DONE AT THIS FACILITY

INSPECTION RESULTS

REJECTED: 0 PIECE(S) THAT SHOW INDICATIONS CONSIDERED DETRIMENTAL.

COMMENTS:

96 PCS ACCEPTED @ M.P.I.

INSPECTED BY

___III___04-12-13___

LEVEL DATE

Lawrence Baldelli___

NDT LEVEL III



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23495

.NE# OUANTITY U/M PART-NUMBER

100 EA MS21069L3

CUST REF#

LOT-NUMBER

CCODE MPR DATE EXP DATE

5861600-000

ALCOA KAYNAR FULLERT 15653

MANUFACTURER

Jason Lewis

Vice President of Quality

•		A.c.	**************************************
		••	が 通識 湯瀬の産業 こっせき
		, ·	
		• · · · · · · · · · · · · · · · · · · ·	



Packing Slip .

Packing Slip: 9948072981

Page: 1

Bill To: 5574 B/E AEROSPACE, INC. P.O.BOX 025263 MIAMI FL 33102-5263 USA

Ship To: (14) B/E AEROSPACE CONSUM MGMT 9835 NW 14TH ST MIAMI FL 33172

USA

From:

ALCOA FASTENING SYSTEMS AEROSPACE PRODUCTS FULLERTON OPERATIONS 800 SOUTH STATE COLLEGE FULLERTON CA 92831 USA

Order Contact: Ship Via Weight Pkgs # Pack Date Order # Cust PO -----10/07/13 F437896 0JRA52 _____ Line/Rel Item BA0650 MK1000-3 cust Date: 08/19/13 C/I: MS21069L3 Kay Date: 08/12/13 PO Item #: 3 *** TSO C-148 APPVD PART. TSO LABEL COO: UNITED STATES Lot: 5861600-000 ECCN: 9A991 Schedule-B Number: 7318.16.0000 Waybill: _____ HTS-Code: 7318.16.0085 The export classification appears above. You are responsible for all related export license requirements. MFG C OF C CHEM & PHYS TEST REPORT REQ

SHIP VIA : FED EX GRD PHONE: BUYER: CRISTINA SANCHEZ MATERIAL COMPLIES WITH DFARS 252.225-700 9 PREFERENCE FOR DOMESTIC SPECIALTY

ALCOA GLOBAL FASTENERS, INC.

Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776 Kaynar Products: Cage Code 15853 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. THE SELLER'S MANUFACTURING LOT IDENTIFICATION NUMBER AND RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER MUST ACCOMPANY ALL RETURNS. ANY CLAIM BASED ON AN ALLEDGED DISCREPANCY IN QUANTITY, QUALITY, ETC. BETWEEN THE GOODS ACTUALLY SHIPPED AND/OR DELIVERED UNDER THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING HEREON. FOR ITEMS CERTIFIED TO BPS-N-70, ALLOY VERIFICATION HAS BEEN PERFORMED ON PARTS WITH A DATE OF MANUFACTURE ON OR AFTER JANUARY 1, 2001. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.



Packing Slip

Packing Slip: 9948072981

Page: 2

Bill To: 5574 B/E AEROSPACE, INC. P.O.BOX 025263 MIAMI FL 33102-5263 USA

Ship To: (14) B/E AEROSPACE CONSUM MGMT 9835 NW 14TH ST MIAMI FL 33172 USA

From: ALCOA FASTENING SYSTEMS AEROSPACE PRODUCTS **FULLERTON OPERATIONS** 800 SOUTH STATE COLLEGE FULLERTON CA 92831

Order Contact:

USA

Ship Via Pack Date Order # Cust PO

Weight Pkgs #

10/07/13 F437896 0JRA52

Line/Rel Item

METALS" WITH TE ALTERNATE ***SHIP VIA FEDX GRD COLLECT ACCT# 0331-

0149-0 IF 150 LBS OR MORE: SHIP FED EX FREIGHT ECONOMY COLLECT ACCT 018757

DO NOT SHIP BY ANY OTHER WITHOUT WRITTEN AUTHORIZATION.

ALLOWABLE SHIPPING TOLERANCE = +0%-0 %. ** BAR CODE PER QAP 33 CLAUSE P REQUIRED

** QAP 33.0 REV F CLAUSES: A,B,C,E,H,P,U , V. CLAUSE A.3 GENERAL TERMS

APPLIES.

PER PO CHANGE NOTICE OK TO SHIP 66,000 I N JANUARY 2013 VB 4/26/13 UPDATED TO SHIP 17,800 PCS BY 04 /30/13 PER JESSICA. AA chem & phys certs

ALCOA GLOBAL FASTENERS, INC.

Kayner Products: Cage Code 15653 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. THE SELLER'S MANUFACTURING LOT IDENTIFICATION NUMBER AND RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER MUST ACCOMPANY ALL RETURNS. ANY CLAIM BASED ON AN ALLEDGED DISCREPANCY IN QUANTITY, QUALITY, ETC. BETWEEN THE GOODS ACTUALLY SHIPPED AND/OR DELIVERED UNDER THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING DECEMBER OF PARTS WITH A DATE OF MANUFACTURE ON OR AFTER JANUARY 1, 2001. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776



Packing Slip

Packing Slip: 9948072981

Page: 1

Bill To: 5574 B/E AEROSPACE, INC. P.O.BOX 025263 MIAMI FL 33102-5263 Ship To: (14)

B/E AEROSPACE CONSUM MGMT

9835 NW 14TH ST MIAMI FL 33172

USA

From:

USA

ALCOA FASTENING SYSTEMS AEROSPACE PRODUCTS FULLERTON OPERATIONS 800 SOUTH STATE COLLEGE FULLERTON CA 92831 USA

Order Contact:

Pack Date Order # Cust PO

PO Item #: 3

Ship Via

Weight Pkgs #

10/07/13 F437896 0JRA52

Line/Rel Item
3-1 BA0650 MK1000-3 C/I: MS21069L3 Rev./

Cust Date: 08/19/13 Kay Date: 08/12/13

*** TSO C-148 APPVD PART. TSO LABEL REQ'D ***

Lot: 5861600-000 COO:UNITED STATES

Waybill: ____

HTS-Code: 7318.16.0085

ECCN: 9A991 Schedule-B Number: 7318.16.0000

The export classification appears above. You are responsible for all related export license requirements.

MFG C OF C CHEM & PHYS TEST REPORT REQ

SHIP VIA : FED EX GRD

CRISTINA SANCHEZ

MATERIAL COMPLIES WITH DFARS 252.225-700

9 PREFERENCE FOR DOMESTIC SPECIALTY

CERTIFICATE OF CONFORMANCE

This is to certify that all items noted above were produced in conformance with the contract, drawing specifications, and other applicable documents. All required process certifications, chemicals and physical test reports are on file subject to examination. This document must not be reproduced except in full and relates only to the items tested.

MICHELE M. VARELA Quality Manager **Fullerton Operations**

ALCOA GLOBAL FASTENERS, INC.

Kaynar Products: Cage Code 15653 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. THE SELLER'S MANUFACTURING LOT IDENTIFICATION NUMBER AND RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER MUST ACCOMPANY ALL RETURNS. ANY CLAIM BASED ON AN ALLEDGED DISCREPANCY IN QUANTITY, QUALITY, ETC. BETWEEN THE GOODS ACTUALLY SHIPPED AND/OR DELIVERED UNDER THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING OF HEREON. FOR ITEMS CERTIFIED TO BPS-N-70, ALLOY VERIFICATION HAS BEEN PERFORMED ON PARTS WITH A DATE OF MANUFACTURE ON OR AFTER JANUARY 1, 2001. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.



Packing Slip



Packing Slip: 9948072981

Page: 2

Bill To: 5574 B/E AEROSPACE, INC. P.O.BOX 025263 MIAMI FL 33102-5263 USA

Ship To: (14) B/E AEROSPACE CONSUM MGMT 9835 NW 14TH ST MIAMI FL 33172

USA

From: ALCOA FASTENING SYSTEMS AEROSPACE PRODUCTS **FULLERTON OPERATIONS** 800 SOUTH STATE COLLEGE FULLERTON CA 92831

Order Contact:

TISA

Pack Date Order # Cust PO

Ship Via

Weight Pkgs #

Octy Ordered Cory To Back

10/07/13 F437896 0JRA52

Line/Rel Item

METALS: WITH ITS ALTERNATE 1.

***SHIP VIA FEDX GRD COLLECT ACCT# 0331

0149-0 IF 150 LBS OR MORE: SHIP FED EX FREIGHT ECONOMY COLLECT ACCT# 018757.

DO NOT SHIP BY ANY OTHER WITHOUT PROPER WRITTEN AUTHORIZATION.

ALLOWABLE SHIPPING TOLERANCE = +0%-0 %. ** BAR CODE PER QAP 33 CLAUSE P REQUIRED

** QAP 33.0 REV F CLAUSES: A,B,C,E,H,P,U , V. CLAUSE A.3 GENERAL TERMS

PER PO CHANGE NOTICE OK TO SHIP 66,000 I N JANUARY 2013 VB

4/26/13 UPDATED TO SHIP 17,800 PCS BY 04 /30/13 PER JESSICA. AA

chem & phys certs

APPLIES.

CERTIFICATE OF CONFORMANCE

This is to certify that all items noted above were produced in conformance with the contract, drawing specifications, and other applicable documents. All required process certifications, chemicals and physical test reports are on file subject to examination. This document must not be reproduced except in full and relates only to the items tested.

MICHELE M. VARELA Quality Manager **Fullerton Operations**

ALCOA GLOBAL FASTENERS, INC.

Kaynar Products: Cage Code 15653 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. THE SELLER'S MANUFACTURING LOT IDENTIFICATION NUMBER AND RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER MUST ACCOMPANY ALL RETURNS. ANY CLAIM BASED ON AN ALLEDED DISCREPANCY IN QUANTITY, QUALITY, ETC. BETWEEN THE GOODS ACTUALLY SHIPPED AND/OR DELIVERED UNDER THESE DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING OF HEREON. FOR ITEMS CERTIFIED TO BPS-N-70, ALLOY VERIFICATION HAS BEEN PERFORMED ON PARTS WITH A DATE OF MANUFACTURE ON OR AFTER JANUARY 1, 2001. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

Date Created: Monday, 07 October, 2013 10:59:54 PNSHIPPER#: 9948072981 NO. Page 1 of 3 8191657 Alcoa **♦ Fastening TEST REPORT** Lot No. **Systems** Aerospace Products Fullerton Operations 5861600-000 800 S.STATE COLLEGE BLVD FULLERTON, CA 92831 Supplier Part No. Supplier Item No. MK1000-3 BA0650 Interchange Part No. Interchange Part No. Interchange Part No. MS21069L3 Rev. 1 MK1000-3 Rev. N/C Thread Size Generic Description Manufactured Quantity Mfg. Date .1900-32 **NUT ANCHOR** 97300 Plating HEAT TREAT AMS-QQ-P416C TYII CL III AMS-H-6875 REV. B NON-DESTRUCT Lubrication ASTM E1444 REV. 12 SAMPLE AS5272E TY I PERFORMANCE NASM25027 REV. 1 Material Supplier Mill Heat No. Control Heat No. Material Spec. # **NLPQ1208** CC19124 CALSTRIP INDUSTRIES INC AMS 5085-H Special Process Requirements: THREADS AND GAUGING PER AS8879 Rev.DR12 and ASME B1.3M SYS. 22 MAX EQUALS INST MIN EQUALS BKWY TEST RESULTS MAXIMUM PASS/ MINIMUM MINIMUM MAXIMUM SAMPLE RESULT -----TEST -----Requirement JON Requirement Value Fail Value Cycle Number No. Description 2.00 IN# 12.40 11 85 1 - 010 TORQUE TEST 8.75 7 8.30 MAX 18, MIN 2, CYCLES 1,7,15 7.80 7.45 15 12.40 10.70 2 1 except in full, without the written approval 7.10 6.80 7 5.05 4.85 15 10.15 12.10 1 3 9.00 9.05 7 15 8.00 7.85 11.05 10.75 1 7.50 7.35 7 6.30 15 6.55 13.05 10.70 9.30 7 8,95 8.15 8.05 15 12.90 11.40 1 6 8.00 7 8.20 7.60 7.40 15 12.00 13.00 1 7 9.15 10.10 9 9.00 15 8.85 AFS.

TEST RESULTS - Continued on next page.

12.95

9.25

THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL AND RELATES ONLY TO THE ITEMS TESTED

The product identified on this Certificate has been manufactured, tested and unless otherwise noted, conforms in all respects to the applicable drawings, specifications and standards. Complete reports of physical and chemical tests are on file for examination. If no specified customer quality level is required, goods conform to sellers quality level. All Damages Exceeding Price are Excluded. For items certified to BPS-N-70 alloy verification has been performed on parts with a date of manufacturing on or after January 1, 2001. Quality system sampling plan conforms to the requirement of QAP EQ001, QAP EQ002, QAP EQ003. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

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13.60

8.85

MICHELE M. VARELA, QA MGR

Rev. 12/02 Form 11199

LCOA GLOBAL PASTENERS. IN

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Date Created: Monday, 07 October, 2013 10:59:54 PMSHIPPER#: 9948072981

Alcoa **Fastening Systems**

Aerospace Products Fullerton Operations 800 S.STATE COLLEGE BLVD FULLERTON, CA 92831



TEST REPORT

NO.

8191657

Page 2 of 3

Lot No.

5861600-000

Supplier Item No. BA0650

Supplier Part No. MK1000-3

		1231	KESU.	P 1 2 - Chuana	ed from previous			
No. Description	ООМ	SAMPLE Number	RESULT Cycle	MINIMUM Value	MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement
	1 1		15	6.95	6.50			
		9	1	10.95	12.40			
			7	9.25	8.85		!	
			15	6.95	6.50			
		10	1	14.90	15.00	!!!		
1			7	9.70	9.60			
4			15	7.75	7.60			
1		11	1	12.00	12.30			
1			7	9.70	10.70			
			15	7.45	6.55			
		12	1	10.65	12.80			
			7	8.65	8.65	1		
			15	6.80	6.35			
1		13	1	8.45	10.00			
	i i		7	7.75	7.95		Į	
	1 1		15	6.85	6.45			ļ
	1 1	14	i	9.65	12.05		į	
			7	8.05	8.05			
			15	7.50	7.40			
		15	1	11.00	12.10			j
\			7	8.85	8.75	<u> </u>		•
			15	7.50	7.30		2460.00	
3 - 020 TENSILE TEST	LBS	1	1	4000.00			2400.00	
bolt & nut thd stripped		2	1	2600.00		1	Ì	
		3	1	2600.00				1
1		4	I	2600.00		1		
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6		14	1	2600.00				
4	kine.	15	1	2000.00		Pass		
3 - 020 TENSILE TEST bolt & nut thd stripped 4 - 050 EMBRITTLEMENT 23 HOURS	HRS	1	1	1		Pass		1
23 HOURS		2	1 1	1		Pass		1

TEST RESULTS - Continued on next page.

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MICHELE M. VARELA, QA MOR.

LCOA GLOBAL PASTENERS, INC

Date Created: Monday, 07 October, 2013 10:59:54 PMSHIPPER#: 9948072981

Alcoa **Fastening Systems**

Aerospace Products **Fullerton Operations** 800 S.STATE COLLEGE BLVD FULLERTON, CA 92831



TEST REPORT

NO. 8191657

Page 3 of 3

Lot No.

5861600-000

Supplier Item No. BA0650

Material Spec. #

AMS 5085-H

roval

of AFS.

Supplier Part No. MK1000-3

DA0030			MILLO					
		TEST	RES	LTS - Centinu		T		
TEST	JOM	SAMPLE	RESULT		MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement
No. Description	DOW	Number	Cycle	Value	value	Pass	Requirement	1.coquironi att
		4	1			Pass		
		5	1					ļ
	1	6	1			Pass		
		7	1			Pass Pass		}
		8	l			1		
	1	9	1		1	Pass		
		10	1			Pass	100.00	
5 - 080 PUSH-OUT	LBS	1	1	100.00			100.00	
MIN. 100 LBS.	•	2	1	100.00		1		
		3	1	100.00				Ì
	 	4	1	100.00				
		5	1	100.00				
		6	1	100.00				
		7	1	100.00				
		8	1	100.00				
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		11	1	100.00	ļ.		ļ	
		12	1	100.00				
	1	13	1	100.00			1	
		14	1	100.00				
		15	1	100.00		1		
6 - 110 HARDNESS	HRC	1	1	43,00	44.00]	
46-42 HRC	1							1
10 - 113 Hardness	-	1	1	(81.10)	(82.50)		1	}
(HR15N)								
Component # Lot Number 1 5851591-000		Supplier Part 90411-3B	t No.		Supplier HAE66	Item No.		
5 - 080 PUSH-OUT MIN. 100 LBS. 6 - 110 HARDNESS 46-42 HRC 10 - 113 Hardness (HR15N) Component # Lot Number 1 5851591-000 Manufactured Quantity	Mfg. 07/0	Date 3/13	G	eneric Description			Thread Size	
					10 1			

Control Heat No.

CC19124

Material Supplier

CALSTRIP INDUSTRIES INC

THIS REPORT MUST NOT HE REPRODUCED EXCEPT IN FULL AND RELATES ONLY TO THE ITEMS TESTED

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Quality system sampling plan conforms to the requirement of QAP EQ001, QAP EQ002, QAP EQ003. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

ALCOA GLOBAL PASTEDERS, INC.

MICHELE M. VARELA, QA MGR.

Mill Heat No.

NLPQ1208

Rev. 12/02 Form 11199

SHIPPER#: 9948072981

Date Created: Monday, 07 October, 2013 10:59:54 PM6HIPPER#: .9948072981

CERTIFIED TEST REPORT



Calstrip Steel Corporation

7140 Bandini Blvd. * Los Angeles, CA 90040-3388 (323)726-1345 * Fax (323)722-8269

Customer:

ALCOA FASTENING SYSTEMS

Address:

P.O. BOX 1186

PITTSBURGH, PA 15230

Order Number:

S81676 / W105332

Customer PO:

220646296

Shipped Date:

06/11/2013

Packlist ID:

144334

Part ID:

082928-CS

Description: CR1050 SPH ANN .035 X .937 X COIL

Drawing #: Rev #:

082928-CS 07/10/08

Material Spec:

AMS 5085H, ASTM A827-02, MS 100

REV.7

HeatID:

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NLPO1208 V

CHEMICAL ANALYSIS

CC19124

С	Mn	Р.	s	/ Si	/ Ni	Cr	Cu	Mo	Resi
0.5119	0.6308	0,0068	0.0075	0.2032	0.0998	0.0629	0.1676	0.0205	
w	v	Sn	Ti	Al	Ca	Zr	Co	N	В
	0.0016	0.0170	0.0016	0.0417	0.0010			0,0066	

MECHANICAL AND PHYSICAL PROPERTIES

Yield	Tensile	Elong % Hardness		Bend Test/	
			HRB 77 ~	OK 7	

Skid Numbers	# of Coils	Weight
W105332-1	7	1,522
W105332-2	7	1,494
	14	3,016

Grain Size	Olsen Test	Spher%	Decarb	Reduct %
8		100	0	

Comment:

SOURCE- NLMK (USA)

6/18/13 8424

All work on this order has been performed in accordance with the Company's Quality Assurance Manual

Technical Services

Form #:

Print Date:

6/11/2013

Page: 1



B/E Aerospace, Inc.

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR www.beconsumables.com



Page: 1 of 1

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23495

LNE# QUANTITY U/M PART-NUMBER

15 EA AN6-16A

CUST REF#

LOT-NUMBER

MANUFACTURER

CCODE MFR DATE EXP DATE

60397

MAC FASTENERS

ORFT4

Jason Lewis

Vice President of Quality

MACFASTENERS, INC.

1110 Enterprise Street Ottawa, KS 66067 Phone: 785-242-8812 Fax: 785-242-4616

Packing List

Bill B/E AEROSPACE CONSUMABLES MGMT To: 10000 NW 15TH TERRACE MIAMI, FL 33172 Ship B/E AEROSPACE CONSUMABLES MGMT
To: 9835 NW 14th Street
Miami, FL 33172
United States

Shipment No: 52814

Shipment Date: 03/02/12

Ship Via: United Parcel Service

Order Number: 44063 **Order Date:** 12/23/11

Customer Code: BE AEROSPACE

Phone: (305) 925-2600

PO Number: OEVL08

Terms: Net 30 Days

LOT #60397

Quantity							Job
<u>ltem</u>	Open	<u>Shipped</u>	Back Ord	Canceled Unit	Description	Revision	<u>Number</u>
1	5,000	6,000	0	M	AN6-16A Bolt, machine- Aircraft	2	60397

MAC FASTENERS, INC. 1110 ENTERPRISE OTTAWA, KANSAS 66067

CERTIFICATE OF CONFORMANCE AND **MANUFACTURER'S AFFIDAVIT**

CUSTOMER: B/E AEROSPACE

PO: OEVL08

PART NUMBER: AN6-16A

REV: 2

LOT NUMBER: 60397

MANUFACTURED QUANTITY: 6.000

MILL HEAT NUMBER: 8077858

COUNTRY OF ORIGIN: UNITED STATES OF AMERICA

DFARS 252.225-7014, ALTERNATE 1 COMPLIANT

MERCURY FREE CERTIFICATION

MacFasteners Inc. certifies that the parts referenced in the above lot number do not contain Mercury or Mercury compounds, and were manufactured in a Mercury free environment.

.We certify that the parts furnished against the above referenced purchase order were manufactured by MAC FASTENERS. INC. within the United States, and were processed in accordance with all applicable drawings and specifications.

Objective evidence of compliance is on file, subject to examination upop/request.

DATE: 03/01/12

QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Regestered Company- SAI GLOBAL - 0058029

MAC FASTENERS, INC. 1110 ENTERPRISE OTTAWA, KANSAS 66067

HEAT TREAT CERTIFICATION

CUSTOMER: B/E AEROSPACE

DATE: 03/01/12

PO NUMBER: OEVL08

MANUFACTURED QUANTITY: 6,000

LOT NUMBER: 60397

MATERIAL:

TYPE 8740

PART NUMBER:

AN6-16A

REVISION: 2

REQUIRED HARDNESS:

26 - 32 HRC

SAMPLE SIZE:

5

HARDNESS:

26-28 HRC

HEAT TREAT SPECIFICATION AS APPLICABLE: MIL-H-6875/AMS-H-6875/AMS2759/AMS5853/PS-1001

The fasteners referenced in this report have been processed, inspected and certified by the Heat Treat Contractor in accordance with all applicable drawings and specifications. Heat Treatment has been verified in accordance with procurement specification and part drawing, by metallurgical and mechanical testing as applicable. Evidence of compliance as well as certification from the Heat Treat Contractor is on file and subject to examination upon request.

QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Regestered Company - SAI GLOBAL - 0058029

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Johnstown Wire Technologies

124 Laurel Ave, Johnstown, PA 15906

Phone: 814-532-5680 Fax: 814-532-5684 **TEST REPORT**

LOT NUMBER **K-8077858**

WORK ORDER

044870

SALES ORDER / RLS

190888 / 1

SOLD TO

Mac Fasteners, Inc. 1110 Enterprise Street Ottawa, KS 66067 USA



CUSTOMER P.O. 50516	C	USTOMER	PART			QUA 18,500	LBS		LADING (001076				ENT DAT
SPECIFICATION MAMS2301; AMS6 Supplement Si Spherodize Ann Size: .371 +.001	3322; A licon K ealed l	MS-S-60 illed Find	Grain	Aircra	ft Qualit	y/Cold H	eading	nse Fe Quality	deral Ac y Drawn	quisitior From A	n Regula Innealed	tion Rod	
CERTIFICATION RE	QUIREM	ENTS									····		
					CH	emical						<u> </u>	
C .41	Mn .86	.006	.01	8 12	81 .25	A1 .028	N . 4	1 1	Cr .50	M o . 20	.10		.001
Cb .000 ????	T1 ???	N .0078	.00	In)5									<i>Ye.</i>
					PI	nysical				·····			W ₂ ,
AMS 2301 0000	J1 58	J 10 40	J11 38	J12 37	J2 57	J3 56	J5 54	J4 55	J6 52	J7 49	J8 46	J9 43	
MacroClean E	:-381												
					Med	chanical							
TEST Tensile Str RA Per Cent Decarb FFD Surface def. dep	ĸħ		UNITS Lbs/Sq Percen Inches Inches	it			7	HIGH 79000 75.2 .000		78000 72.1 .000	i 1	-	78000 73.5 .000
					Rod/N	felt Sour	Ce						
Rod Source Republic			t Sour	:ce		Country USA	of O	rigin	Naf Yes	ta			
					End of C	ertification							

I certify that the results are a true and correct copy of the records prepared and maintained by JOHNSTOWN WIRE TECHNOLOGIES in compliance with the requirements of the cited specification. Chemistry is as reported by the rod / bar supplier and is not in JWT A2LA accreditation. This test report cannot be reproduced or distributed except in full without the written permission of JOHNSTOWN WIRE TECHNOLOGIES. The test results certified herein relate only to the items tested.



D. L. Deetscreek Director of Quality Assurance 1807 ERST 28TH ST. PHONE: 330-438-5694

PAX: 330-438-569

REPUBLIC ENGINEERED PRODUCTS

August 1, 2011 PAGE 1

LURAIN, OH 4405

OF 2 PURCHASE ORD: 80879 PURCHASE ORDER DATE: PART NUMBER: FXT40AA-.562 ACCOUNT NUMBER: 5672-1921-01 ORDER NUMBER: 1488317 - 01 SCHEDULE: 7411-90 HEAT: 8077858 REVISION: DOATE CHARGE ADDRESS PAREAUMEROUSEOUSEOUSECUSECUSECUSECUSEUSEUSENDERES SHIP TO ESTABLISTECTION OF THE PROPERTY JOHNSTOWN WIRE TECHNOLOGIES JOHNSTOWN WIRE TECHNOLOGIES 124 LAUREL AVE EDWARD ZAPOLA C/O C & BL RAILROAD JOHNSTOWN, PA 15906 TRACK 629 JOHNSTOWN, PA 15901 MATERIAL DESCRIPTION -----HOT ROLLED STEEL COILS ALLOY AMS 2301K JOHNSTOWN WIRE SPEC RW-100 REVISION DTD 04/21/04 EXC PARA 10.3 AWS 6322N BXC HARD JOHNSTOWN WIRE SPEC RW-005 REVISION DTD 12/31/00 EXC SURFACE DEFECTS JOHNSTOWN WIRE SPEC PART NO. PXT40AA REVISION DTD 12/31/00 MIL S 6049A & AMD 1 COND B-1 EXC MARK & UT WAIVED EF-AISI-8740-H FINE GRAIN VACUUM DEGASSED AIRCRAFT QUALITY FIXED PRACTICE QUALITY RESTRICTED CHEMISTRY RESTRICTED MAX INCIDENTAL ELEMENTS SIZE: RDS .5620 DIAM X COIL RDS 14.2748MM DIAM X COIL LADLE CHEMISTRY & SI CU NI 2 0.25 0.10 0.41 MN ₽: s 0.41 0.86 0,006 0.012 0.50 CB MO SN AL B 0.000 0.0078 0.001 0.20 0,005 0.028 0.0000 ---- CALCULATED TESTS ---REDUCTION RATIO 524.3 TO 1 AUSTENITIC GRAIN SIZE 5 OR FINER BASED ON A TOTAL ALUMINUM CONTENT EQUAL TO OR GREATER THAN .020% PER SEMI - FINISHED RESULTS ------JOMINY HARDNESS TEST SAB J406/ASTM A255
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 20 22 24 26 28 30 32 58 57 56 55 54 52 49 46 43 40 38 37 35 35 34 33 32 31 30 30 30 29 29 28 ASTM E381/MIL STD 430 ETCHANT: HCL TEMPERATURE: 170 C ; S R AVG 1 MAGNETIC PARTICLE TEST AMS 2301 AMS2304 AMS2300 IND AVG IND AVG FREO FREO SEV SEV PCE 03 0 ß 0 0 _____ DECARBURIZATION TEST SAB J419/ASTM EI077/JIS G0558 ETCHANT - NITAL MAGNIFICATION - 100X TOTAL SPIKE COMPLETE DEPTH INCHES INCHES INCHES PCE 10441 0.003 0.002

BY HILDA BEGUE

MT Kirth

DIRECTOR QUALITY ASSURANCE

G. KRUTH



1807 EAST 28TH ST. PHONE: 330-438-5694 LORAIN, ON 4405 FAX: 330-438-569

REPUBLIC ENGINEERED PRODUCTS

August 1, 2011 PAGE 2

5/16/2011

5672-1921-01

OF 2

PURCHASE ORD: 80879

PART NUMBER: FXT40AA-.562

HEAT:

ORDER NUMBER: 1488317 - 01

8077858

PURCHASE ORDER DATE:

ACCOUNT NUMBER:

SCHEDULE:

REVISION:

7411-90 1

CAPABLE OF SEAM DEPTH 14 MAX DIAMETER NOT LESS THAN .005 MAX

NOTES ----CHEMICAL ANALYSIS CONFORMS TO APPLICABLE SPECS: ASTM E415, LBL10129, LBL10130, ASTM E1019,

LBL10158, LBL10114, AND ASTM E1085, LBL10184, LBL10188.

REPUBLIC ENGINEERED PRODUCTS HEREBY CERTIFY THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND

NOTES (CONTINUED) TESTED IN ACCORDANCE WITH THE METHODS PRESCRIBED IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE

RESULTS OF SUCH INSPECTION AND TESTING HAS BEEN APPROVED FOR CONFORMANCE TO THE SPECIFICATIONS.

CERTIFICATE OF TESTS SHALL NOT BE REPRODUCED EXCEPT IN FULL.

ALL TESTING HAS BEEN PERFORMED USING THE CURRENT REVISION OF THE TESTING SPECIFICATIONS.

RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FRIONY UNDER FED STATUES TITLE 18 CHAPTER 47.

THE MATERIAL WAS NOT EXPOSED TO MERCURY OR ANY METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURE DURING PROCESSING OR WHILE IN OUR POSSESSION.

NO WELD OR WELD REPAIR WAS PERFORMED ON THIS MATERIAL.

THE RESULTS REPORTED RELATE ONLY TO THE ITEMS TESTED

MELT SOURCE: CANTON CAST ROLL MELT COUNTRY: U.S.A HOT ROLL SOURCE: LORAIN 9/10, U.S.A

RED. RATIO: 524.3 MELT METHOD: EF BLOOM

END OF DATA ------ CC ------ END OF DATA WITH SHIPMENT 1 COPY PRINTED AT SHIPPING AREA

FAX SHIP TO 1 COPY FILE 1 COPY ATTENTION EDWARD ZAPOLA

FILE Ä

Lo.

1-814-532-5684

G. KRUTH DIRECTOR QUALITY ASSURANCE BY HILDA BEGUE

TKW

DE TRAY Plating Works

Specialized Electro-Plating and Polishing
Nickel Passivate
Copper Bright Dip
Decorative Chrome Strip Copper
Satin Chrome Descale

Zinc Cadmium

10406 EAST ELEVENTH STREET • INDEPENDENCE, MISSOURI 64052 Phone (816) 252-8411 Fax (816) 252-8527 • E-mail: DeTrayPlating@Aoi.com

February 28, 2012

Mac Fasteners 1110 Enterprise Street Ottawa, Kansas 66067

Subject: Certification

This is to certify that the following parts have been electrodeposited cadmium plate per Spec.-QQ-P-416/AMS-QQ-P-416/NAS4160/AMS2400, Type II, Class 2. Please reference our Invoice# 160072 dated 02/28/2012 for:

Lot#-60397

P.N.-AN6-16A

James T. Pierson, Vice-President

DE TRAY PLATING WORKS



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23495

LNE# QUANTITY U/M PART-NUMBER

250 BA MS21044-N08

CUST REF#

LOT-NUMBER

MANUFACTURER

CCODE MFR DATE EXP DATE

39995-000

MACLEAN-BSNA

019L2

Jason Lewis

Vice President of Quality

		No.	
		5	
		<i>(</i>	
			.
1	at all the same and		

MACLEAN-ESNA PICKING LIST

Ship From: MacLean ESNA

611 Country Club Road

Pocahontas, AR 72455

Col/Ppd: Oi COLLECT

Routing: 01 Not on file

Sold to: 552550

Rum Dates'

BE AEROSPACE INC

FO BOX 025263

MIAMI, FL 33102-5263

Ship To: 552550-0000

M&M AEROSPACE HARDWARE

(4)

10000 N.W. 15 TERRACE

MIAMI, FL 33172

Ligginary S

	Customer P.O.: OHJOS	57		•		055028-0 SEH Cho)O BAGE gd By'i SEI	
:	Ord. Qty. Item Number No. Ctns Description Ship Qty.	วท	From Date	LOCN TAG HTZLOT		•	No. of Cartons	Net Weight
:	500000 175746 500,000 F22NM-82 MS21044NOS	3	04/01/10	VA50A 0 1770-€		15096	2	59***
		.e. P't # M&	321044N08	√C31A 11765 7 1770-0		9925	1.	39 [#] . ;
	**************************************		,	√M36B 11548	9950	9950 -	1,	39"
			/	√B35A 11204	225000	225000	238	900
	1010000			√836A 11205	202537	202537	24	811 * C
-	109925			√0308 0308 11210 39995-	37492	37492		152
	109950	* *******	CERTS REQUES WARRENES OF THE CONTROL	TRED **********	* 6 %		SKIDS ZBXS	2065
,	27.6.10000		,	Or	rder Tot	e.l #	*ma	

20010000

107492

***** ORDER COMMENTS *****

-QTY-TOLERANCE -+/-2%-

UNDER 150# FEDEX GROUND 0331-0149-0 MARK COLLECT

OVER 1500 FEDEX NATIONAL LTL 018757

DO NOT INSURE

F.O.B. POCAHONTAS, AR

ALL ITEMS MUST BE NEW AND TO LATEST

REVISION

*** Continued On The Next Page ***

3/22/10

Jeers Fage 000002 37:97:0 majasas g 2:37, 39 MACLEAN-ESNA PICKING LIST Ship Kit Some MacLean ESNA MacLean Elan. 11 Country Club Road Pocahontas, AR 72455 Col/Ppd: 01COLLECT Routing: 01 Not on file \$01d to: 552550 \$010000 BE AE Ship To: 552550-0000 M&M AEROSPACE HARDWARE BE AEROSPACE INC PO BOX 025263 10000 N.W. 15 TERRACE 137492 MIAMI, FL 33102-5263 MIAMI, FL 33172 0010000 Order No: 055028-00 Charlengty P.O.S. DHJ057 B/0: 05 Tkn By: SEH Chgd By: SEH Ord, Oty. Item Number LOCK Ncc \E€RSO Description TAG Qty. No. of Net Car tell Picked HT/LOT ROB 150 pro 004 x " Line From Date 139950 139925 8 10000 500,000

5/331

MACLEAN-ESNA A MACLEAN-FOGG COMPANY 611 COUNTRY CLUB ROAD POCAHONTAS. ARKANSAS 72455 (870) 892-5201

TO: M&M AEROSPACE HARDWARE 10000 N.W. 15 TERRACE MIAMI, FL 33172 DATE:

3/23/2010

SUBJECT:

YOUR ORDER NUMBER

OHJ057

ITEM NUMBER

ESNA ORDER NUMBER FSCM/ CAGE NUMBER

055028

YOUR PART NUMBER

.019L2

CERTIFIED AS

MS21044N08

ESNA PART NUMBER

MS21044N08 PER NASM21044 (NEW) F22NM-82

QUANTITY

37492

PACKING LIST NUMBER

51331

SHOP ORDER NUMBER

39995 - 000

Gentlemen:

This is to certify that all applicable plating, heat treating, and inspection processing and that all material used in the manufacture of subject parts conform to the specification or drawings received by ESNA and set forth in the subject purchase order; that the parts are of good material and workmanship; and that all necessary records, including chemical and physical where applicable, will be made available for review upon request. The inspection and test reports provided represent the actual attributes of the items furnished on this contract and indicate full compliance with all applicable specification and contract requirements.

This is to certify that the materials supplied against the subject order are free of contamination by presence of mercury.

Very truly yours,

MACLEAN-ESNA A MACLEAN-FOGG COMPANY

Jim Earley

Quality Aşsurance Manager

S-58 REV. 5-11-99

MACLEAN-ESNA A MACLEAN-FOGG COMPANY **POCAHONTAS, ARKANSAS 72455**

CERTIFICATE OF QUALITY COMPLIANCE

DATE: IO. F22NM-82

M AEROSPACE HARDWARE	ESNA PART NO.	F22NM-82
000 N.W. 15 TERRACE	MANUFACTURER	S LOT SIZE

TO:

(APPROX. WT. COUNT) 77064

3/23/2010

MANUFACTURED UNDER SHOP ORDER NUMBER 39995

MIAMI, FL 33172 MA	NUFACTURED UNDER SHOP ORDER NUMBER 39995 - 000
OR	IGINATED AS SHOP ORDER NUMBER
ACCEPTANCE	TESTS PER NASM 25027
MATERIAL RAW MATERIAL TYPE 0.310	RD 1010 CHQ WIRE DATE MFG: 08-08 AS EVIDENCED BY THE ATTACHED MILL CERTIFICATION. ESNA SHOP
RAW MATERIAL CONFORMS TO ASTM A-510 DRDER NO. 39995 - 000 MILL HEAT NO. 527730	VENDOR WIRE TECH
RED NYLON IS A TRADEMARK OF ELASTIC STOP NUT. TH	IS ASSURES TRACEABILITY OF PARTS TO SOURCE. MATERIAL BILITY TO VENDOR OF RAW MATERIAL. NONMETALLIC INSERT
FINISH FINISH TYPE CADMIUM	I PLATED TO SAE AMS QQ-P-416B, TY II, CL 2
· · · · · · · · · · · · · · · · · · ·	FIONAL LUBRICANT
AXIAL STRENGTH REQUIRED LBS. MINIMUM EXCEEDS LBS. SAMPLE SIZE 15 PIECES.	ALL SAMPLE PIECES TESTED MEET OR EXCEED MINIMUM REQUIREMENTS.
	S21044N08 PER NASM21044 (NEW) UARENESS AS SPECIFIED PER NASM 25027
DISCONTINUITIES WITHIN LIMITS PER NASM 25027 AND MIL-S	TD-271D/ACN 1/ AND REV E/ NOTICE 2/ AND REV F/ NOTICE 1.
ASTM E1444 MT PER SPEC 725	SAMPLE SIZE(MT - PCS): 0 ACCEPTED(PCS): N/A
ASTM E1417 PT PER SPEC 731	SAMPLE SIZE(PT - PCS): 0 ACCEPTED(PCS): N/A
OCKING TORQUE MAXIMUM LOCKING	G(IN. LBS.): 15
MINIMUM BREAKAWAY	/(IN. LBS.): 1.5
1ST CYCLE MAXIMUM LOCKING 7TH CYCLE MAXIMUM LOCKING	ALL SAMPLE PIECES MICE I
15TH CYCLE MAXIMUM LOCKING	(IN. LBS.): 3.5 SAMPLE SIZE 15 PIECES
MERCURY FREE CLAUSE WE CERTIFY TO DURING MANU	HAT NO POSSIBILITY EXISTS FOR MERCURY CONTAMINATION TO OCCUR FACTURE, ASSEMBLY, OR TESTING OF PARTS ON THIS CONTRACT.

I CERTIFY THAT THE ABOVE TEST RESULTS AND/OR STATEMENTS ARE CORRECT AND REPRESENT THE PRODUCTS AS SUPPLIED.

FSCM/CAGE NO. 019L2 COQC-NASM REV. 7-9-09 SIGNATURE

MACLEAN-ESNA A MACLEAN-FOGG COMPANY POCAHONTAS. ARKANSAS 72455

LOCKING TORQUE TEST

CUSTOMER NAME M&M AEROSPACE HARDWARE 10000 N.W. 15 TERRACE

10000 N.W. 15 TERRACE MIAMI, FL 33172 **CUSTOMER DUE DATE**

3/23/2010

CUSTOMER PO # ITEM NUMBER

OHJ057 175746

QUANTITY

37492

THREAD SIZE HEX .1640-32UNJC-3B .336 - .345

LINE NO

4

MS NUMBER - REF:

1 MS21044N08 PER NASM21044 (NEW) ESNA ORDER #

ESNA ORD

055028

PART#

F22NM-82

SHOP ORDER #

39995 - 000

LOT QUANTITY

77064

PARENT SHOP ORDER #

Sample Size & Requirements per Spec NASM 25027

SampleSz

15

REQUIREMENT: 1ST, 7TH, 15TH, INSTALLATION MAXIMIUM TORQUE

____15

15TH BREAKAWAY MINIMUM TORQUE

1.5

	*					
SAMPLE#	1ST ON	1ST BREAK	7TH ON	7TH BREAK	15TH ON	15TH BREAK
1	3.5	4.0	3.9	3.5	3.5	3.5
2	3.0	3.4	2.5	3.0	3.3	3.1
3	3.0	3.1	2.4	2.5	2.0	2.5
4	3.0	3.0	3.0	2.7	2.5	2.9
5	2.9	3.0	2.4	2.5	2.4	2.4
6	3.1	3.3	2.4	3.0	2.8	2.6
7	3.0	3.0	2.3	2.6	2.0	2.1
8	3.1	3.1	2.9	3.0	2.6	2.7
9	2.3	2.5	2.6	3.0	2.9	3.0
10	2.4	2.3	2.7	2.5	2.0	2.1
11	2.5	2.5	2.8	3.0	2.2	2.5
12	3.0	3.4	2.1	2.3	2.6	3.5
13	2.9	3.0	3.1	3.0	2.4	2.4
14	3.0	2.8	3.0	3.2	3.0	3.0
15	3.1	3.0	2.5	3.0	2.6	2.7
		and the second s			the state of the s	



Fax (323) 721-2738 SOLD TO

Maclean - ESNA 611 Country Club Road Pocahontas, AR 72455 USA

WORK ORDER 059945

CERTIFICATION HEAT NO. 527730 SALES ORDER / RLS 824891 / 1 ISO 9001-2000 REGISTERED



MECHANICAL TESTING CERT # 911.01

CUSTOMER P.O. 16451

CUSTOMER PART

0400070310

QUANTITY

CARRIERS

LADING NO

SHIPMENT DATE

1,106 Lbs

1

00073558

08/22/2008

SPECIFICATION M051010-303100B

C-1010, AKFG, CHQ WIRE, SAIP Zinc Phosphate and Lube Coating, Size:0.309/0.311 Specifications: 1040 B, ASTM A-29/A29M 05 , ASTM A-510 REV. 06

CERTIFICATION REQUIREMENTS

Chemical Properties

C Mn 0.09 0.37 0.008

0.012

Si 0.080 Cit

Νi 0.04 Cr

Mo

0.07 0.02 0.08

Physical Properties

Mill Source Charter .

Mechanical Properties

TEST

Tensile Strength

UNITS KSI

Results 61.2

39995 - 000

Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for cradit and request for cancellation of such orders will not be considered if manufacture has been commenced. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. "The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a feliony under Federal statutes including Federal law, Title 18, Chapter 47."

REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.

REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.
Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metalliographic mount preparation per ASTM E 3, decarburated on depth per ASTM E 18, metalliographic mount preparation per ASTM E 3, decarburated on per ASTM E 18, metalliographic mount preparation per ASTM E 45, decarburated per ASTM E 45, decarburated per ASTM E 18, metalliographic mount preparation per ASTM E 45, decarburated per ASTM E 18, metalliographic mount per ASTM E 47, decarburated as per IFI 140.
The reported Chemical and Physical Properties are Melt Source results. Transcribed from mill certificates. HRB(W) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2.* Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.

TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.

"LATEST REVISIONS OF ASTM"

Material is free of mercury, radium, or alpha contamination.

QA Manager

m:\pri



CHARTER

CHARTER STEEL TEST REPORT Reverse Has Text And Codes

A Division of Charter Manufacturing Company, Inc. 1658 Cold Springs Road

Saukville, Wisconsin 53080

(262) 268-2400

1-800-437-8789

FAX (262) 268-2570

Wiretech Incorporated 6440 East Canning Street Los Angeles, CA 90040-Attn: Janice Duran

CONTRACT	6175-3
CON CALL	1010-3C110-C
Charter Sales Ordet	259289
The state of the s	527730
STATE OF A	388319
Crede//	1010 A AK FG RHQ
Procees	HR
COURSE FINISHESIZE	7/16

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements. Test Results of Heat Lot# 627730

Lab Code: 7388 Chemistry Wt%

0.09

0.37

0.0060 0.0001 0.001

0.080

0.001

CR MO 0.07 0.02 80,0

0.005

Value

0.001

0.034 CHEM, DEVIATION EXT.-GREEN - N/R

AL

•		I dot (inadim of the		
	# of Tests	Min Value	Max Value	Mean '
TENSILE (KSI)	3	56.8	57.8	57.4
REDUCTION OF AREA (%)	3	58	69	64
	2	63	66	64
ROCKWELL B (HRBW)	^	0	0	0
ROCKWELL C (HRC)	V.	0.433	0.444	0.439
ROD SIZE (Inches)	20			0.006
ROD OUT OF ROUND (Inches)	6	0.003	0.007	0.000
OC DEVIATION EXTGREEN = N/R				*

RC LAB - N/R

TENSILE LAB = 0368-02 RA LAB = 0358-02 RB LAB = 0358-02

QC DEVIATION EXT.-PROCESSED = N/R

Test Results of Processing Lot #

Yest Results of Rolling Lot # 386319

Specifications:

Manufactured per Charter Steel Quality Manual Rev 8, 12-05-07
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:
Customer Document = COP 3000 Revision = Q Dated = 16-JAN-2007

Additional Comments:

39995-000



Charter Steel Saukville, WI, USA

Rem: Load1, MailQ Fax1 Fags 1 of Testing Laboratory

Tim Leahy Manager of Quality Assurance 02/22/2008

Fax number: (323) 728-6360

The following statements are applicable to the material described on the front of this Test Report:

- 1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States.
- Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
- 3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
- 4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	•	Laboratory	Address		
0358-01	7388	CSMD	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080		
0358-02	8171	CSRD/ CDPD	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080		
0358-03	123633	P4	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457		
0358-04	125544	csc	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004		
358.05	128003	CSDT	Charter Steel Detroit	23860 Sherwood Ave. Center Line, MI 48015		
•	•		Subcontracted test performed by laboratory not in Charter Steel system			

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Possible Laboratory	Specification
CSMD, CSC	ASTM E415; ASTM E1019
CSC	ASTM E572
CSMD, CSC	ASTM E381
CSMD, CSC	ASTM A255; SAE J406; JIS G0561
CSMD	ASTM E112
CSRD/CSPD, P4, CSC, CSDT	ASTM E8; ASTM A370
CSMD, CSRD/CSPD, P4, CSC, CSDT	ASTM E18; ASTM A370
CSRD/CSPD, P4	ASTM A892
CSRD/CSPD, CSC	ASTM E45
	CSMD, CSC CSC CSMD, CSC CSMD, CSC CSMD CSRD/CSPD, P4, CSC, CSDT CSMD, CSRD/CSPD, P4, CSC, CSDT CSRD/CSPD, P4

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/09.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by AZLA.

- 6. The test results on the front of this repot are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
- 7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:

it may be distributed only to their customers

■Both sides of all pages must be reproduced in full

- 8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.
- 9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.

ACCHEONEO TOWNSHOOM



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23495

LNE# QUANTITY U/M PART-NUMBER

CUST REF#

LOT-NUMBER

MANUFACTURER

CCODE MFR DATE EXP DATE

139

CHERRY ABROSPACE SAN 11815

Jason Lewis

Vice President of Quality





PACKING LIST

Order No: S0301082
Order Date: 12/18/06
Print Date: 07/11/07

Page: 1

Cherry Aerospace 1224 East Warner Avenue Post Office Box 2157 Santa Ana, CA 92707-0157 USA

Sold-To: 10015341

S M&M AEROSPACE HARDWARE PO BOX 025263 MIAMI, FL 33102-5263 USA

Ship-To: 19000244

S M&M AEROSPACE HARDWARE 10000 N.W. 15TH TERRACE MIAMI, FL 33172 USA

Salesperson (s):110

Credit Terms: 1810,30

1%10, Net 30

Purchase Order: 0AS898

Ship Via: Watkins

FOB: Origin

Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0
IF OVER 150# SHIP WATKINS MOTOR LINE ACCOUNT# 018757 - DO NOT INSURE
DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS
DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE, UNLESS SPECIFIED.

BRITISH AEROSPACE APPROVAL# BAe/AG/30158/MAA to BAe/AG/QC/SC1 PART 3 AIRBUS APPROVAL# 30114

GOODS OF UNITED STATES ORIGIN

•••••••••••••••••••••••

Ln	Item Number	Site T LocationLot/Serial		Qty Open Qty to Ship UM		Promised Shipped		
1	CR9162-4-08 Customer Item:	1600 MS20601AD4W8			EA	06/07/07		1
		K0604	86737839	13000.0		()		

TEST REPORTS ENCLOSED DO NOT DESTROY





PACKING LIST

Cherry Aerospace 1224 East Warner Avenue Post Office Box 2157 Santa Ana, CA 92707-0157



Order No: S0301082 Order Date: 12/18/06

Print Date: 07/11/07



10015341 Sold-To:

M&M AEROSPACE HARDWARE OLD PO BOX 025263 MIAMI, FL 33102-5263

USA TO

Ship-To: 19000244

M&M AEROSPACE HARDWARE H 10000 N.W. 15TH TERRACE I MIAMI, FL 33172

P

USA

T

Salesperson (s):110

Credit Terms: 1%10,30

1%10, Net 30

Purchase Order: 0AS898

Ship Via: Watkins

FOB: Origin

Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0 IF OVER 150# SHIP WATKINS MOTOR LINE ACCOUNT# 018757 - DO NOT INSURE DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE, UNLESS SPECIFIED.

BRITISH AEROSPACE APPROVAL# BAe/AG/30158/MAA to BAe/AG/QC/SC1 PART 3 AIRBUS APPROVAL# 30114

GOODS OF UNITED STATES ORIGIN

Qty Open Promised T LocationLot/Serial Oty to Ship UM Shipped Item Number Ln

CR9162-4-08

1

1600

EA

06/07/07

Customer Item: MS20601AD4W8

K0604 86737839

13000.0

TEST REPORTS ENCLOSED DO NOT DESTRUY

CERTIFICATION

ATTENTION: PURCHASING DEPARTMENT

The material and/or parts we are furnishing in this shipment (as shown above) on the subject Purchase Order conform to the order and applicable specifications, Evidence that the material and/or parts meet the specifications and results of all tests for each lot affected will be in our files and will be available for your inspection at any reasonable time.

Quality Assurance Representative

Signed

SIM NGUYEN

CHERRY AEROSPACE LLC MADICAL

Santa Ana. CA 92707-0157



Final Inspection & Test Report Cherry® Rivet

An ISO9001 and AS9100 registered company

Part Numbers	Rev	Proc. Spec.	Rev		
CR9162-4-08	L	MIL-R-7885	D2	Lot I.D. No.:	86737839
				Lot Size:	13,000
				MFG. Date:	July 10, 2007

ASSEMBLY DATA

TYPE	ID#	CERT # MATERIAL	FINISH	LUBE
Rivet	86737839	A53986 2117-T4 ALUM. ALLOY	MIL-C-5541	Par-90
Stem	86737851	A54690 2017-T4 ALUM. ALLOY	MIL-C-5541	Par-90

W.O. #: 12180063

Final Lube: HOT WAX

INSTALLED SHEAR SPINDLE RE	
INSTALLED SHEAR SPINDLE RE	TENSION
MIN REQ'D 370 15	
SAMPLE SIZE 9 9	
SPECS UnLoc	ked
RESULTS 535 531 78 72	
538 74	
581 77	
583 63	
581 74	
539 76	
540 64	
LOAD VALUES IN POUNDS 538 74	

METALLURGICAL AND OTHER RELATED TESTS/REQUIREMENT

PCS.	ITEM	STATUS	PCS.	ITEM	STATUS
<u>125</u>	EXAMINATION	<u>PASS</u>	<u>13</u>	INSTALLATION (Min and Max Grips)	PASS
	Locking feature (missing collar/spindle)			Spindle Protrusion/Recession	
	Visual (grip/material code, ID)			Collar Protrusion	
	Laps, seams, folds			Blind Head Dia./Formation	
<u>32</u>	Roundness/Concentricity	<u>PASS</u>		Tightness in plate	
	Dimensional, ID Marks, Tool Marks/Nicks			-	

Comments:

Blind Fastener

Tr. Rev.: Rev. Date: 7/10/2007 Inspector M Garcia

Insp. Control #: 260900

Cherry Aerospace LLC certifles that the product tested above conforms to all referenced specifications listed and that the original data are available for review upon sufficient notice. Cherry Aerospace LLC further certifies that the articles listed above have been manufactured and inspected in accordance with FAA TSO-C148. The conditions and tests required for TSO approval of this article are minimum performance standards. Alreraft fasteners approved under this TSO are not necessarily interchangeable with other aircraft fasteners approved under this TSO. Substitution of parts may only be done if acceptable to or approved by the FAA Administrator.

This test report shall not be reproduced except in full, without the written approval of the laboratory.

The recording of false, fictitious, or fraudulent statement or entries on the certificate may be punished as a felony under Federal law.

CHERRY®AEROSPACE LLC MADOAR

1224 East Warner Avenue Santa Ana, CA 92707-0157

Customer Part Number



An ISO9001 and AS9100 registered company

Customer Parts List

Rev

Proc. Spec.

MS20601AD4W8 MIL-R-7885 <u>Rev</u>

D2

Final Inspection & Test Report **Cherry® Rivet**

Lot I.D. No.:

86737839

Rev:

CERTIFIED INSPECTION REPORT AND TEST RESULTS

NICHOLS WIRE, INCORPORATED

1547 Helton Drive - Florence, AL 35630

SHIP TO:

CHERRY AEROSPACE LLC 1224 EAST WARNER AVENUE P. O. BOX 2157 SOLD TO:

CHERRY AEROSPACE LLC ATTN ACCTS PAYABLE

P. O. BOX 2157

SANTA ANA, CA, 92707-0157

SAN I A AN	IM, UA. 9	2/0/-01	10/			3	ANIAA	NA, CA.	92/07-	U15/				
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ALUMINUM REMAINDER

KAISER ALUMINUM & CHEMICAL CORPORATION

08-41-0147 Rev. 07/05

CERTIFIED TEST REPORT 600 KAISER DRIVE HEATH, OH 43056

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ALUMINUM REMAINDER

CERTIFIED INSPECTION REPORT AND TEST RESULTS

NICHOLS WIRE, INCORPORATED

1547 Helton Drive - Florence, AL 35630

SHIP TO:

CHERRY AEROSPACE LLC 1224 EAST WARNER AVENUE P. O. BOX 2157 SANTA ANA, CA. 92707-0157

SOLD TO: CHERRY AEROSPACE LLC ATTN ACCTS PAYABLE

P. O. BOX 2157

SANTA ANA, CA. 92707-0157

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CERTIFIED TEST REPORT 600 KAISER DRIVE HEATH, OH 43056

NICHOLS WIRE INC. H 1547 HELTON AVE Þ

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AL 35630 1.

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NICHOLS WIRE INC. 1547 HELTON AVENUE ATTENTION: AMANDA SOUTH

FLORENCE

AL 35630

NICHOLS 1804 01 8000 DI NSP404 CUSTOMER PURCHASE ORDER NO. & ITEM KAISER ORDER NO. 214475825 ALLOY CLAD. TEMPER GAUGE WIDTH 2017A 0 . 37500 | 00. 0000 | 000. 000 ITEM ORDERED ALY-JUMBO CUSTOMER SPECIFICATION

CERTIFICATION

MADE IN USA

"KAISER ALIMANUM & CHEMICAL CORPORATION (MAISER) HERIESY CERTIFIES THAT METAL SHIPPED LINDER THIS ORDER HAIS BEEN INSPECTED AND TISSTED AND FOLAND IN CONFORMANCE WITH THE APPLICABLE SPECIFICATIONS FORMING A PART OF THE DESCRIPTION SET PORTH IN MAISER'S SALES ORDER ACROSM EDGEMENT FORMA. ANY NUMBER IT OF THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS & CONDITIONS OF SALE.

PART NUMBER B/L NUMBER DATE SHIPPED 6D37L1 1804 01/19/07 WEIGHT SHIPPED GOVT, CONTRACT NO. 39,444 175

John Despin Technical Manager

NO. OF TERTS		WGE	WGU						T	
3	MIN MAX	28.0 28.0	26.6 26.9							-
	Cu -	Fe . 30	. 38	Mn ·	Mg 6	Zn .21	Cr . 04	Žr .003	Ti 02	
3	MIN MAX	28.0 28.0	25.6 26.5				,			
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		·						NAA	5001 K-43848	A54690
							1	MAI		
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	3	3 MIN MAX Cu 4.1 3 MIN MAX	TERTS 3 MIN 28.0 MAX 28.0 Cu Fe 30 3 MIN 28.0 MAX 28.0 Cu Fe	TERTS 3 MIN 28.0 26.6 MAX 28.0 26.9 Cu Fe S1 .30 .38 3 MIN 28.0 25.6 MAX 28.0 26.5 Cu Fe S1	TEBTS MIN 28.0 26.6	TERTS 3 MIN 28.0 26.6 MAX 28.0 26.9 Cu Fe Si Mn Mg .6 6 3 MIN 28.0 25.6 MAX 28.0 26.5	TESTS 3 MIN 28.0 26.6 26.9 Cu Fe Si Mn Mg Zh 6 .2 3 MIN 28.0 25.6 6 .2 3 MIN 28.0 25.6 MAX 28.0 26.5 Cu Fe Si Mn Mg Zh	TEBTS MIN 28.0 26.6	TESTS MIN 28.0 26.6	TESTS 3 MIN 28.0 26.6 MAX 28.0 26.9 Cu Fe Si Mn Mg Zn Cr Zr Ti .1 .30 .38 .6 .6 .2 .04 .003 .02 3 MIN 28.0 25.6 MAX 28.0 26.5 Cu Fe Si Mn Mg Zn Cr Zr Ti

				СН	EMICAL (COMPOSIT	ION (WT.	.%)			
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	Day or me				ALUMIN	UM REMA	INDER			<u> </u>	<u> </u>



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191 Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23495

LNE# QUANTITY U/M PART-NUMBER

15 RA AN833-6D

CUST REF#

LOT-NUMBER

MANUPACTURER

CCODE MFR DATE EXP DATE

00027461-29278-3

DESIGNED METAL DBA P 14798

Jason Lewis

Vice President of Quality



PERMASWAGE - Nelson Aerospace

A Designed Metal Connections, Inc. Company

10310 Norris Avenue Pacoima, CA 91331 Ph: 818-686-0900 Fax: 818-686-0181

Pack Slip:

Sales Order: 1984

Page:

1 of 1

Customer Packing Sir

Ship To:

B/E AEROSPACE CONSUMABLES MANAGEME 9835 NW 14TH ST

MIAMI FL 33172

USA

Verify AES requirements prior to shipment.

Sold To:

B/E AEROSPACE CONSUMABLES MANAG

PO BOX 025263 MIAMI FL 33102-5263

USA

Verify AES requirements prior to shipment.

Fax:

Cart Number Description

305-507-7194

Ship Date:

7/30/2013

Ship Via: FEDEX GROUND

FO.B.: EX WORKS

Cust P.O.:

OFSW39

Salesperson: JIM THOMPSON

PO Planned Qty Shipped Qty, Back Order Qty Line

FEDEX GRD # 0331-0149-0

2,400

1.079

1.138.00 AN833-6D

ELBOW

OFSW39

00027461-29278-3

Sale Order / Line / Release:

19844/3/1

Customer PO Number:

Certificates Required:

Standard Certification:

Full Certifications:

No Yes First Article Inspection: Chemical/Physical:

No No Material Certificate: FAIR per AS9102:

No No

1 BOX - 15X15X10 - 27 LBS

1 BOX - 15X15X10 - 31 LBS

AN, MS, AS, NAS and other industry standard parts controlled by ECCN 9A991 and HTS 8803.30.00.00 Products listed have not been exposed to mercury or mercury compounds during the manfuacturing process.

11 MATERIAL TO BE RETURNED MUST HAVE PRIOR AUTHORIZATION BY PERMASWAGE -NELSON AEROSPACE SALES @ 818-686-0900 !! WE HERBY CERTIFY THAT ALL PROVISIONS OF THE FAIR LABOR STARNDARDS ACT ON 6/25/83 AS AMENDED HAVE BEEN FULLY COMPLIED WITH IN THE MANUFACTURE, PRODUCTION OR PURCHASE OF GOODS LISTED HEREON. ALL ITEMS ARE SUBJECT TO A 100% RESTOCKING CHARGE ALL PAST DUE ACCOUNTS SHALL BEAR INTEREST AT THE RATE OF 11/2% PER MONTH (18% PER ANNUM).

Certification of Conformance

Certification of Certification Certification of COnformance

BY RECEIVING DELIVERY OF THE GOODS COVERED BY THIS PACKING SLIP, BUYER EXPRESSLY ASSENTS TO THE TERMS AND CONDITIONS SET FORTH.

Manager of Quality Assurance or Designee

07/31/2013 Unchanged **CERT** 366,376 AN833-6D , 07/30/2013 2:43PM 00027461-29278-3

JENCO PLATING INC

9536 Rush Street South El Monte

CA 91733

SHIPPER/C of C

TEL: (626)443-6705

FAX: (626)443-5133

INVOICE

SHIPPER NO.

56696

NELSON AEROSPACE

Bill To:

10310 NORRIS AVE.

Ship

To:

10310 NORRIS AVE.

PACOIMA

CA 91331

PACOIMA

CA 91331

DATE SHIPPED

SHIPPED VIA

PURCHASE GROEKNO

7/29/2013

00027461

31540

TEM OTY ORDERED PART NUMBER/DESCRIPTI

1.080

1,080

AN833-6D

ELBOW

LOT: 00027461-29278-3

ANODIZE PER MIL-A-8625F, AMEND 1, TYPE II CLASS 2 COLOR BLUE WITH DUPLEX SEAL

DURABILITY FINISH INSPECTION ACCORDANCE PER AS4841 PARA 4.7.1. 15 PCS

inis is to Certify, Ail goods delivered to not come in direct contact with mercury nercury compounds or with any mercury ontaining device in our facility.

WE CERTIFY THAT, EXCEPT AS OTHERWISE STATED, THE LISTED PARTS HAVE BEEN PROCESSED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NOTED PURCHASE ORDER/SPECIFICATION(S). RECORDS ARE ON FILE AND AVAIL

EXAMINATION.

MANAGER

LOT: 00027461-29278-3

No. OACOC 002

PERMASWAGE

CERTIFICATION OF CONFORMANCE

29278

14800 South Figueros St. Gardena, Ca. 90248-1795 Telephone: (310) 323-6200, Facsimile: (310) 329-2505

Apr/9/2013

Customer: Nelson Aerospace

Designed Metal Connections Inc., dba Permaswage USA, certifies that documentary evidence in the form of physical and chemical test reports and inspection records on this material and/or processes indicating conformance to the applicable specifications are on file and available for review at the seller's plant.

The parts so submitted meet dimensional, functional and quality requirements as covered on the purchase order number, part number and/or specifications.

	•	•	
المتناف المناف			

Item Number: 833-06DF 833-06DF 833-06DF 833-06DF 833-06DF

Ref. Customer Part Number:

Ref. Customer Part Number Rev.:

Quantity: 1,100.00 263357 263357 Line Number: 003

The following information pertains to this purchase order:

Pick Slip Number: 202485

RMLC: 1202013-013 HEAT: 10035364 CONTROL: 34925

Signature: (NA)

User Name: SARKISIAN, VAHE

Title: Quality Assurance Representative

LOT: 00027461-29278-3

R5542520 DMC1001

"Sample (s): Customer Supplied"

TEST REPORT



AS TESTING LABORATORIES, INC.

9820 6th Street, Rancho Cucamonga, CA 91730

FAX 909-373-4132

YR/TG

DATE#: 02-16-13 ATL#: 328980

CLIENT:

DESIGNED METAL CONNECTIONS

833-06DF PN#

SIZE:

CONTROL# 34925 .559 DIA. FORGING

ATTN: ANA BARRAZA 14800 S. FIGUEROA

WO# 335219 RMLC# 12D2013-013

1 PC.

GARDENA, CA 90248

HEAT# 10035364

QTY.:

ALLOY:

2014-T6

SPEC.: AMS-QQ-A-367D

				MECH	ANICAL	est, L	ETHOD	ASTULBE	<i>57-</i> 10			
INSPECTION			MELD (2%	OFFSET	ULTI	MATE	8	N				
SPECIMEN ID	TEMP	VISUAL INSPECT OK?	ORIG. DIAM.	ORIG. AREA	ACTUAL	KSI	ACTUAL LOAD IN LBS	1	ORIG. GAGE LENGTH	ACTUAL ELONG	PERCEN T	LOC. OF FRACTURE (A)
L	RT	OK	0.251	0.0495	2948	59.6	3387	68.5	1.00	1.125	12.5	1
RE	COURED	, MINIMUM:				56.0		65.0	<u>L</u>	<u></u>	6.0	

Strain Flate: 0.005 inch per inch per minute

(A) 1 = Center Fracture; 2 = Outer Quarter Fracture; 3 = Fractured @ Gage Mart; 4 = Fractured @ Radius; 5 = Material Flaw/Defect

Remarks: Conforms to requirements.

Respectfully Submitted:

ATLAS TESTING SUBMITS THIS REPORT AS THE CONFIDENTIAL PROPERTY OF OUR CLIENT. REPRODUCTION IS AUTHORIZED, BUT ONLY IF IN FULL. THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT INFORMATION TO THIS REPORT MAY BE PUNISHABLE UNDER FEDERAL LAW.

Page 1 of 1

LOT: 00027461-29278-3

KAISER

FABRICATED PRODUCTS

Tennatum 300 Industrial Drive Jackson, TN 38301 731-423-2811



CERTIFIED TEST REPORT

CUSTOMER PO NUMB	ER:	CUSTOMER PART NUMBER:	PRODUCT DESCRIPT	TOR:	•					
43-101411-1	_		Forging Stock HA Round							
KASSER ORDER MUMB	EX: LINE ITEM	SHIP DATE:	ALLOY:	TEMPER:						
677520]1	04/05/2012	2014/	F						
WEIGHT SHIPPED:	QUANTITY:	OL NUMBER:	DMANDAF/THIGES:	MOTIL	LENGIN:					
2006 lbs.	262 pcs.	33757	0.8125 in.	0.000 in.	144.0 in.					
SHIP TO:			90LD TO:							
Braico Metals 15090 Northam S La Minade, CA 90			Braico Metals 15090 Northam Street La Mirada, CA 90638 USA							

Test Code: 4000 AC		Actual Physical Properties						
Lot Number 14	MG.							
	MO							
;	CEST							
10035364	0.0							

Chemical Composition, WT. % (Aluminum Remainder)

	8i	 Cu	,	lig /	Cr		EACH	OTHERS TOTAL	Lot
Actual Hax							0.05	0.15	10035364
Min	0.50	3.9	0.40	0.20				-	

Specifications

Standard: ASTMB247-09 TABLE 1, AMS-QQ-A-367 THEM ONLY Non-Standard: AMS 4133D, Chem. only BMS-7-186 K, Chem. BPS 4017 F-1, Sect. VI AMS-A-22771A, Chem only

D.M.C. RAW MATERIAL LOT CONTROL# /2D 20/3-0/3



CERTIFICATION.

Easer Aluminum Fabricated Products, LLC ("Kaiser") bereby certifies that the metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgment form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

John Rennekamp, Quality Manager

And Remain

Page 1 of 2

Plant Serial: 170273

Kaiser Order Number: 677520

Line Item: 1

Sold to: D M C AEROSPACE PO: 55330 Part: 12D2013-013 Order No.: 140862 TR clerk signature:



LOT: 00027461-29278-3

KAISE ALUMINUM

FARRICATED PRODUCTS

Tennalum 309 Industrial Drive Jackson, TN 38301 731-423-2811



CERTIFIED TEST REPORT http://Online.KeleerAkuminum.com

Miscellaneous Notes

Made in USA

This material was melted and manufactured in the USA. Mercury is not a normal contaminant in aluminum alloys. Neither mercury nor any of its compounds were utilized by Kaiser Aluminum in the manufacture of this material. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

Wrought forging stock is produced to a controlled chemical composition, metal cleanliness level and dissolved gas level. Accordingly, the quality of Kaiser Aluminum Class I and II forging stock is such that properly forged and heat-treated, forgings produced from it can be expected to conform to the applicable Aluminum Association ultrasonic standards at a high level of recovery. When forgings are ultrasonically inspected before being placed in service and ultrasonic indications caused by stock quality are found to ex- ceed the applicable Aluminum Association ultrasonic standard or the quality level of a negotiated standard, Kaiser Aluminum will replace such stock. Kaiser Aluminum assumes no other responsibility for ultrasonic quality than that described above. This material meets the requirements of Bell Hellicopter Spec. BPS 4017F-1, Section VI. Material is RoHS compliant.

CERTIFICATION ...

Kaiser Aluminum Fabricated Products, LLC ("Kaiser") hereby certifies that the metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

John Renneksmp, Quality Manager

Page 2 of 2

Plant Serial: 170273 Kaiser Order Number: 677520

Line Item: 1

PO: 55330 Part 12D2013-013 Sold to: D M C AEROSPACE Order No.: 140662

TR clerk signature:

LOT: 00027461-29278-3



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

4.

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23495

LNE# QUANTITY U/M PART-NUMBER

CUST REF#

LOT-NUMBER

MANUFACTURER

CCODE MFR DATE EXP DATE

46409

3V FASTENERS

1RR65

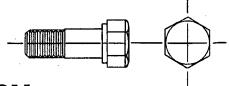
Jason Lewis

Vice President of Quality



320 REED CIRCLE • CORONA, CA 92879 PHONE 951/734-4391 FAX 951/734-0127

AND THE PROPERTY OF THE PARTY O



DANIEL E. HENSON

AND MANAGEMENT OF THE PARTY OF

THE PASTCHERS

THE PARTENDES

TEST CERTIFICATION

*Pagerson1 SCenter# 43956 **Cente Date ** 06/02/09 *** ** 4010 *** 46409 ************ American Baselina $= \lambda(x_1^2, y_1^2, t_2, t_3, y_1^2, x_2^2, y_2^2, x_3^2, y_2^2, \dots, y_n^2)^2$ HANGAAR YERRON, PAK. P.O. #: 0902504 -- Cust # 10 32 THE SEAL PROPERTY OF LEES. appendig of the old throught the factor of the all . Managed at NATO LA CONTROPOSICIONES SPECIAL PROPERTY AND P.O. Qty: HONEYWELL CONSUMABLES .2500 un en en en en Customer : | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 10 Reference to the state of the s Ewe of the transfer of the community of SOLUTIONS 9/30/48/30/30/09/00 SW S-00033689 Ship #: Ship To : ROANOKE, TX. Nava Saar Keer PARTY OF THE PROPERTY. THE BY FACTORIES Eaship Qty: 2300 MFG. Part #: NASM6C12A REV. 1 BASERCACTERISC, VEC Part #: AN6C12A The the state of the second of · 直接管 在於 医中部下肠洗透测的 AND A VARIATION AS 表質な いっぱい かいかくのか - 1000g ASS EASTERNAMES -THE CALL STREET Material Spec: MIL-S-18732D Mill, Vendor: Mill, Vendor: VALBRUNA/CENTRAL WIRE Type: 431 Hardness per NASM1312-6, ASTM E 18 or E 384 FOR SAUTHFURS THE HY PARTEMENS MARKETHAN CHOME, DIC Minimum Requirement: 26-32 HRC 26.0 11726.0 HTTP: 263 OV CARTENER 26. 93 OF FARE 27140 TO BY FASTERERS FE SHE PARTITION NA MARKED GREEN, CAC. Fig. Biographical Science & Co. What form Best BKC. PART BY A MENTERSHIP THE SURFICENCE Metallurgical Tests -595F EV ABSOLUTING CASTRONIA ACCESTACE GLATIN SIZE TUNKA Decarb: NONE and Handness : N/A meson and हर्षिषु व्याप कर्मक वर्ग प्रकारतः । शृङ्कि व्याप वर्ग प्रकार प्रवासन्ति । MARIA MARKATAR TAR TAR TOP IN PARTENTINE The terror and the terror and the terror and the Metallurgical, Special Process and Subcontracted Test Information NUMBER OF STREET, INC. THREADS INSPECTED PER MIL-S-8879C NG3, AS8879D OR MIL-S-7742D A. IN PARTICULAR AND MANAGEMENT AND ASSESSMENT OF MANAGEMENT OF MANAGEMEN MANCESCHIRING, 000. MACRO AND MICROSTRUCTURE SATISFACTORY 5 PCS HEAT TREAT PER AMS2759/5D BY CONTINENTAL #89170
PASSIVATE PER AMS2700C MET 1 TY2 BY ACTIVE #86912 THE TANK OF THE PARTY OF THE PA MANUFACTO TORRUTAC. SAMPLE FPI PER ASTM E 1417 05 BY ACTIVE #89734 THE HALF SCHOOLS DFARS 252, 225-7014 ALT I ONLY AS IT APPLIES PER P.O. हर्ति । इस इस हाडा अहार हा जिल्हा THE CENTER WE THE TO BU FAMILIBRES SUPERIOR CONTROL 177 ALLENGER ARTHURST FOR PART Tensile per NASM1312-8 Minimum Requirement. 10100 LBS TREATTERS OF THE SET PARTITIONS WELL Jane 12 33 Mark 15 J 13400 Load: 13200 13500 Failure: THD 13260 13400 THO MARKET CHORAC, INC. THD THD THIS TEST CERTIFICATION SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF 3-V FASTENERS CO., INC. TESTING LABORATORY. THIS CERTIFICATION SHALL NOT BEVUSED BY THE CUSTOMER TO GLAIM PRODUCT ENDORSEMENT BY ANY AGENCY OF THE U.S. GOVERNMENT. 3-V FASTENERS CERTIFIES THAT THE PRODUCT SHIPPED ON ABOVE PURCHASE ORDER WERE MANUFACTURED, INSPECTED AND TESTED IN COMPLIANCE WITH ALL APPLICABLE PRINTS AND SPECIFICATIONS. ALL SUPPORTING DOCUMENTATION IS ON FILE AT 3-V. REGISTERED ISO 9001:2000 PJR COT-1020 AND AS9100 CAGE CODE LER65 BAE APPROVAL BAE/AG/30148/CAL / AIRBUS APPROVAL 30085. THE AN EXPERIENCE HERE THE STATE OF THE S i de la company DEL BLANGTON WESTER QUALITY ASSURANCE LAB SUPERVISOR

3V FASTENERS CO., INC.	NSPECTION REPORT	PG 1 OF 2						
PART NUMBER	REV.		LOT #	LO	LOT SIZE		SAMPLE SIZE	
AN6C12A		1	46409	23	2364		125/13	
DESC: HEX HD EXT.		PRINT 1	NUMBER		SAMPLING	PLAN		
3/8-24 X 1.328		NASM3	THRU NASM20		ANSI Z1.		4 GLII, S-3	
PRINT CHARACTERISTIC	PRINT REQ.		ACTUAL	ACC.	REJ.	GAGE EQUIPMENT		
HEAD MARKING	- 4090		- Logo			VISUAL/10X		
GRIP LENGTH 7 .015	703673		-690 686	-/-		CALIPER/OPT.COMP.		
LENGTH03/			1.331 - 1.322			CALIPER		
THREAD PITCH DIA.		93450	.34653461	/		TRI-ROLL		
THREAD FUN. DIA.	.34793450		-3474 - ,3463	V	:	TRI-ROLL/RING GAGE		
THREAD MAJOR DIA.	.37503678		.3737-,3725	V		MICROMETER		
THREAD ROOT RADIUS	n/a		N/A			OPT	ICAL COMPARATOR	
THREAD MINOR DIA.	N/A		N/A	_		TRI	-ROLL/OPT.COMP.	
GRIP DIAMETER	.374371		.374-,373	/		MIC	ROMETER/OPT COMP	
WRENCH FLATS	.565553		.558 - ,555	/		CAL	IPER	
BEARING SURFACE DIA	.553523		.542541	//		OPT	ICAL COMPARATOR	
BEARING SURF. HGT.	.026006		.013009	V		OPT	ICAL COMPARATOR	
RADIUS UNDER HEAD	.015005		.014012 V			OPT	ICAL COMPARATOR	
HEAD HEIGHT	.235203		.223216			CALIPER/MICROMETER		
DIMPLE/RECESS DEPTH	N/A		N/A				HEIGHT STAND	
DIMPLE/RECESS WIDTH	N/A		NIA				CALIPER/PIN GAGE	
WRENCH POINT DIA.	N/A		NA			CALIPER		
FIN THD, B/S, RAD, GRIP	32/RA MAX.		< 32/Ra	/		сом	PARATOR GAGE/10X	
FIN. ALL OTHERS		RA MAX.	< 125/Ra	V		COM	PARATOR GAGE/10X	
BURRS/SHARP EDGES	NONE ALLOWE		NONE	V,		VIS	UAL/10X	
BEARING SURF. SQ.	2 DEG. MAX.		< a·	1	,	OPT	ICAL COMPARATOR	
SHANK STRAIGHTNESS *	.0025		4.0025	/		CON	CE.GAGE/SUR.PLT	
INSP. PERFORMED & ACCEPTED BY:	3V INSP	DATE: 5-26-09						
REPORT PREPARED BY: DA	AN HE	NEW DATE:December 8, 2004 38754						

FORM 11-1, REV 5 03/17/98

NOTES:
1. * PER INCH OF LENGTH





3V FASTENERS CO., INC.		FINAL IN	SPECTION REPOR	T	PG 2 OF 2				
PART NUMBER		REV.	LOT #	LO'	r size		SAMPLE SIZE		
AN6C12A	1		46409	23	64		125/13		
DESC: HEX HD EXT.		PRINT NU	MBER		SAMPLING	PLA	N		
3/8-24 X 1.328		NASM3 TH	RU NASM20		ANSI Z1.	4 GL	GLII, S-3		
PRINT CHARACTERISTIC	PRINT	REQ.	ACTUAL	ACC.	REJ.	GAG	E EQUIPMENT		
LEAD ANGLE LENGTH	.063-	.031	.043036	V		OPT	ICAL COMPARATOR		
CHAMFER TOP OF HEAD	35-25	DEG.	30° - 29°			OPT	ICAL COMPARATOR		
CONCENTRICITY:					·				
SHANK TO WRENCH FLATS	.016		<.016			CON	CENTRICITY GAGE		
		***************************************				·			
		,							
INSP. PERFORMED &					ر مر سر	۵,			
ACCEPTED BY:		cm. Si	TOTAL TINSP	DATE	5-26	-07			
REPORT PREPARED BY: Di	AN HENS	ON	03/	DATE:	:December	8, 2	2004 38754		

FORM 11-2, REV 5 03/17/98



PERTH, ON ERIN, ON DUMAS, AR LANCASTER, SC 613-267-3752 FAX 613-267-5617 519-833-8632 FAX 519-833-2213 870-382-2980 FAX 870-382-8988 803-283-3353 FAX 803-283-6303



UNION, IL HOUSTON, TX PERRIS, CA

615-923-2131 FAX 615-923-2126 713-466-1000 FAX 713-466-7425 961-657-2105 FAX 951-943-6061

11472

THE LEADING MANUFACTURER OF STAINLESS STEEL, NICKEL AND COPPER ALLOY WIRE PRODUCTS EXECUTIVE OFFICES: PERTH, ON CANADA - EMAIL sales@oentratwire.com

PERRIS SERVICE CENTER 2500 "A" STREET TEL: 909-657-2105

PERRIS, CA 82670-8361 FAX: 909-843-6061

AB 06

CERTIFICATE OF CONFORMANCE

3V FASTENERS 320 REED CIRCLE CORONA, SOLD

CA 92879-1349

3V FASTENERS 320 REED CIRCLE CORONA,

CA 92879-1349

USA

SHIP TO

USA

WORK ORDER DATE SHIPPED ORDER NO.

TYPE OF CERT CUSTOMER'S PO NO. 14687 Customer

CUSTOMER 129433

1096466

4064672

6/25/07

SPECIFICATIONS:

TO

AMS 5628F,AMS-S-18732, MIL-S-18732 * DFAR 252.225.7014 ALT I COMPLIANT *

**********	TEN DESCRIPTION	98.041	
DESCRI	TION	SPEC, CLASS	HEAT
Cold Heading 431	Melt mill VALBRUNA		419432
Cold Heading 431 SKIN PASSED Seam Free .3715 Coils Std. Copper/Techcoat	Country of origin ITALY	QTY SHIP	055

		CHE	MILAL ANNES	SÍS		
.14	MN . 56	51 .36	P . 024	\$.001	CR 15.58	NI 1.58
MÓ . 07	.12	N .025	<i>,</i>			·

		1	riegi fatiliek	i Palopent	ËS	
AS SHIPPED P	ROPERTIES:					
TENSILE 95.000 KSI					·	
AFTER HEAT T	REAT PROPERTIES	: * SEE	BELOW			Λ
TENSILE 213.000 KSI	YIELD 176.000 KSI	ELONGATION 14.000 % (4D)	R/A 50.000		5 Stall 1	 INSP

MICROSTRUCTURE: BANDED & BLOCKY FERRITE, BANDED & BLOCKY AUSTENITE-ACCEPTABLE * 1875 F +/-25 F 30 MM, QUENCHED IN OIL AT 125 F +/-25 F, COOLED TO ROOM TEMPERATURE IN WATER, SOAKED IN LIQUID AT -100 F +/-20 F NOT LESS THAN 2 HOURS, TEMPERED IN AIR AT 550 F +/-25 F FOR 2 HRS, AND RETEMPERED IN AIR AT 550 F +/-25 F FOR 2 HOURS. RON MATUEWEZSKI, QUALITY CONTROL SUPERVISOR

The material se shipped is free from mercury contamination. I certify the chemical analysis and physical and mechanical test results reported above are correct se contained in the records of the company.

Very truly yours.

AUTHORIZED SIGNATURE

05/07/2009 THU 12:12 [JOB NO. 6823]

Ø002

Acciaierie Valbruna s.p.A.





CERTIFICATO DI COLLAUDO **ABNAHMEPRUEFZEJGÑIS** INSPECTION CERTIFICATE CERTIFICAT DE RECEPTION EN 10204, 3.1

Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

Cliente / BocteFortPurchosedClem VALBRUNA STAINLESS INC. 2400 TAYLOR STREET WEST USA-FORT WAYNE, IN 46801-USA

Produltore: STABILIMENTO DI BOLZANO

Avviso di Spedizione. D-8207002178 Liaforenzalge/Packing McV8.L.

Ordine nr: 19623 CENTRAL/TECH.PO

Certificato nr: MEST470215/2007/

Conferma ordine nr: EV06000456 Werke/Our Order/Ref nr.

Marchio di Fabbrica:

Zeichen des Listernwerkes Trade merk Sigle de Tusine, produtice



Oggetto Prove: Descaled Annealed Hotrolled Prologgenciand/ham Inspected/Prideage

Tipo di Elaborazione: E+AOD ErschmelzungserWieding processMode d'elabor

Punzone del Collaudatore: Stampal des Warksachverstündiger Inspectate diempfingen de Texab

Specifiche: Anforderungen / Regulamente / Extgences D.3.PRS.079.S 2005 431 A

ASTM A370 2005.

Qualitá: 431

Marca: VAL4R

Punzonatura: 431

	Markonbazaich	พะเทษไรเสนตระกษายอ			remedia and greatering many					
	Pos. nr. Pos. nr. Item nr. Nr. de poste	Oggetto Gegeneland Product description Descript du produit	Dimensioni - In Abrassuagan Dimansion Dimonsion	Tolleranza Tolleranz. Allawence Tolerance	Lunghezza - in Longe Longin Longusur	Colata Schmilze Heat Coulée	Pezzi Stilekzahl Pleces Pleces	Peso - LB Gawich Welght Pelde	Lallo nr. Losns. Let w, Let w,	
j	0010	Round	0,4724	484-05A	1	419432		6.792	634601750	

Sono state soddislatte lutte le condizioni richieste Die gestetan Antorderungen dad R. Anlege artitik The malerial has been hurtiched in accordance with the requirements Le material à la traudy conforme aux etgences

Controllo antimescolanza: OK Verwachshingprühing: specialensly Antimizing testing performed: OK Contrille untimitenge (att: r.e.s.

Controllo Visivo e dimensionale: soddisfa le esigenze: Beabdgudg und Autmessuer: ohne Branstandung Vausi laspertine and dimensional checks: satisfactory Controle visional et dimensional: satisfactory

	TEST	Provette/pacesus Epocimen-Epocusers Long dam Sposs Briss Dam, Octa Vicab films Tischness Long dam apais TIM	٥F	Posts. Sagglo Presental Laurente Laurente ()	Snervamento Suset parte Visto Sarase Limite destroys Rp 0,2% K.S.j.	Snervamenio Swedmente Nede Sees Linds elastique	Resistenza Zuglestytell Tersife strength Restrance 3 standon Firm k.s.l.	Aliunga Budu Elang Mang	ihnung ulan	Elnsch Redoctio	clone notices real great tion RA	Kebs	ienza isputon isvois	-	UFBZZB Hasse Hassess Opins HB	
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В	8.7	5	68			176			213		1 .	4	50		L	

f |L=lang)udnate/långe, O=trasverente/quer, T=Tengenziele/tar

TEST C: hardened from 1024C/oil and tempered from 635/air,

according to AMS 5628F.

Grain size for ASTM E112 **FERRITE DELTA %**

Analisi chimica

	Chemische Zusammare et umg/Chemiscal Analysis chisrique														
Colala /Heet Schmolze/Coulée				15,60 16,50	0,25	0,50	1,50 1,75	0,040	0,030	0,100	•	•	:	:	Ŀ
	C %	Si %	Mn %	Cr%	Mo %	Cu %	Ni %	P %	S %	N %					1
419432	0,14	0,36	0,56	15,58	0,07	0,12	1,58	0,024	0,001	0,025			İ		<u> </u>

Banded Ferrite and Austenite conform to the AMS 5628F.

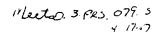
Material Is DFARS Compliant

Il collaudatore di stabilimento / der Werkssachverständige / Works Inspector / L'agent d'usine

Bolzano, 20/03/07 M.Lestan gotom Ward wo (Mod. MCER)

Pagina - 1 di 2







5,300

512116 89734

9356½ San Fernando Road, Unit B • Sun Valley, CA 91352 (818) 504-0677 • FAX (818) 504-1559

SOLD TO:

3V FASTENERS 320 REED CIRCLE CORONA , CA 92879 (951) 734-4391 INSP 03

TERMS: net 30

TE CENTIFIED	DATE RECEIVED:	DÂ	TE TESTED:	CUSTOME	R P.O.		TO NAME OF AND	PACKAGING METHOD	tari karan arawa Tarihi tarihi
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OURESCENT PENET	JASTM E	1417-0			Rejected Accepte	ed Rejected	Accepted	Rejected Accepte	d Rejected

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Payer Herronoly



5-13-0

9356½ San Fernando Road, Unit B • Sun Valley, CA 91352 (818) 504-0677 • FAX (818) 504-1559

SOLD TO:

3V FASTENERS 320 REED CIRCLE CORONA , CA 92879 (951) 734-4391 (INSP 03

TERMS: net 30

TE CÉRTIFIED	DATE RECEIVED:	DATE TESTED	CUS	TOMER P.O.		real property	PACKAGING METHOD	
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This test certification shall not be reproduced except in full. This certification shall not be used by the customer to claim product endorsement by any agency of the U.S. government. Active Magnetic Inspection certifies that the product shipped on the above certification were processed, inspected & tested in compliance with all applicable prints & specifications. All supporting documentation is on file at Active Magnetic Inspection.

ages Harondy



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10643 S. NORWALK BL. SANTA FE SPRINGS CALIFORNIA 90670 562-944-8808 800-622-6624 FAX 562-944-1499

CERTIFICATION

4-30-01

CERTIFICATION NUMBER 531333

3 V FASTENERS 320 REED CIRCLE CORONA, CA 92879-1349



3 V FASTENERS 320 REED CIRCLE CORONA, CA 92879-1349

CUSTOMER NUMBER DATE RECEIVED CUSTOMER P.O. NUMBER CUSTOMER SHIPPER 0450045 04/08/09 89170 QUANTITY WEIGHT PART NUMBER / DESCRIPTION - 2358 - 127 AN6C12A RTR# 46409 3 PANS H/T, 125-145 KSI PER P.O.

MATERIAL CASE DEPTH CORE HARDNESS MAX-CROSS SECTION 27-32 HRC 431 5/ SPECIFICATIONS

AMS 2759/5 D

PROCESS	SPEC TEMP	SPEC TIME	EQUIP.	ACT TEMP	TIME IN	TIME AT-HEAT	TIME OUT	ATMOS DEWPT	Q-MED & TEMP	DATE
RACK	للمركبي المهماء والدر	gradin	RACK		. 08	Y				04/13
PRECLEAN	140	: 05	WASH	140	10:00	10:00	10:05	AIR	A/C	04/13
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TEST RESUL										
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					2.00					04/29
			,		1 21 226 14					



HARDNESS: 27-28 HRC QTY TESTED: 8 QTY ACCT: 2358 QTY REJT:0

DATE

NSPECTOR

04/29/09

JIMMY MARTINEZ

his Process Certification covers thermal processing and/or hardness testing only. No particular mechanical properties of any material should be assumed, or are mplied, as a result of the thermal processing and/or hardness testing of this Process Certification. ALL FURNACES CERTIFIED TO MEET THE REQUIREMENTS OF AMS-H-6875, CURRENT REVISION. HARDNESS TESTING PERFORMED TO THE LATEST

REVISION OF ASTM E 384, ASTM E 10, ASTM E 110, ASTM E 18, ASTM E 140 AND ASTM A 370.

BUD IEST TO COMPITIONS ON DEVEDOE SINE

EA 7 4 DEV C 12/10/04

RANDALL THOMAS.

Acciaierie Valbruna s.p.A.





CERTIFICATO DI COLLAUDO **ABNAHMEPRUEFZEUGNIS** INSPECTION CERTIFICATE CERTIFICAT DE RECEPTION EN 10204, 3.1

36100 VICENZA (Italia) - Viale della scienza, 25 z.i. Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

Clights / Besteher/Purchneer/Client VALBRUNA STAINLESS INC. 2400 TAYLOR STREET WEST USA-FORT WAYNE, IN 46801-USA

Produltore: STABILIMENTO DI BOLZANO

Oggetto Prove: Descaled Annealed Hotrolled

Awiso di Spedizione: D-8Z07002178 L'eleranzolge/Packing fc/0.L.

Ording nr: 19623 CENTRAL/TECH.PO

Tipo di Elaborazione; E+AOD

Certificato nr: MEST470215/2007/

Conferma ordine nr: EV06000456 WerkerOur Order/Ref nr.

Marchio di Fabbrica: Vietronio di Paddica. Zeldien des Listernweikes Trade meik Sigle de l'usine produtico



Punzone del Collaudatore: Siempel des Werkssochweiständigen Inspector's stomp/Poincon de l'assayeur



Melted and manufactured in Italy No welding or weld repair Material free from Mercury or radio-activity contamination The Quality Management System is Certifled acc. Pressure Equipment Directive [97/23/EC] Annex 1,s.,4.3 by TUEV and LLOYD'S





Bolzano, 20/03/07

(Mad. MCEA)

il collaudatore di stabilimento / der Werkssachverständige / Works inspector / L° agent d' usine

M.Lestan prom Mondus

Pagina - 2 di 2



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO23495

LNE# QUANTITY U/M PART-NUMBER

2000 EA MS27039C1-08

CUST REF#

LOT-NUMBER

MANUFACTURER

CCODE MFR DATE EXP DATE

65918

MAC FASTENERS

ORFT4

Jason Lewis

Vice President of Quality

		
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MACFASTENERS, INC.

1110 Enterprise Street Ottawa, KS 66067 Phone: 785-242-8812 Fax: 785-242-4616

Packing List

BILL B/E AEROSPACE CONSUMABLES MGMT

To: 10000 NW 15TH TERRACE

MIAMI, FL 33172

Ship B/E AEROSPACE CONSUMABLES MGMT

To: 9835 NW 14th Street

Miami, FL 33172

United States

Shipment No: Shipment Date:

59306

06/20/13

Ship Via:

United Parcel Service

Order Number:

46949 Order Date: 12/03/12 Customer Code: BE AEROSPACE

Phone: (305) 925-2600

PO Number: 0LTJ29

Terms: Net 30 Days

LOT #65918

Job Quantity <u>Number</u> **Shipped Back Ord** Canceled **Unit Description** <u>Item</u> <u>Open</u> 148,500 MS27039C1-08 Screw machine pan head 65918 2 100,000 М structural cross recessed A286 material

MAC FASTENERS, INC. 1110 ENTERPRISE OTTAWA, KANSAS 66067

CERTIFICATE OF CONFORMANCE AND **MANUFACTURER'S AFFIDAVIT**

CUSTOMER: B/E AEROSPACE

PO: 0LTJ29

PART NUMBER: MS27039C1-08

REV: 3

LOT NUMBER: 65918

MANUFACTURED QUANTITY: 148.500

MILL HEAT NUMBER: 45FM

COUNTRY OF ORIGIN: UNITED STATES OF AMERICA

DFARS 252.225.7009 Compliant

MERCURY FREE CERTIFICATION

MacFasteners Inc. certifies that the parts referenced in the above lot number do not contain Mercury or Mercury compounds, and were manufactured in a Mercury free environment.

We certify that the parts furnished against the above referenced purchase order were manufactured by MAC FASTENERS, INC. within the United States, and were processed in accordance with all applicable drawings and specifications.

Objective evidence of compliance is on file, subject to examination upon reque

DATE: 06/19/13

QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Regestered Company- SAI GLOBAL - 0058029

MAC FASTENERS, INC. 1110 EAST ENTERPRISE OTTAWA, KS 66067

CHEMICAL & PHYSICAL TEST REPORT

CUSTOMER B/E AEROSPACE	PO NUN	IBER MF LTJ29	G QUANTITY 148,500	06/19/13
PART NUMBER MS27039C1-08	REV L	OT NO 65918	PROCUREMEN' N	r spec ASM7839

MATERIA	TYPE A	286		MATERIAL SPECIFICATION AMS5731/AMS5737				MILL HEAT NUMBER 45FM			SUPPLIER BRWN PAC		
.024	.09	.23	.014	s .0003	Cu .07	Ni 24.58	Cr 14.60	Мо 1.18	.21	В .006	Fe 56.62	AI .20	Ti 2.08
	Co .05	N	Bi .00001	Рь .0001	Mg	Zn		Nb	Sn			Other	

MECHANICAL TEST RESULTS - TESTING PER NASM1312

	ISILE STRENGTH UNDS
4,380	4,380
4,420	4,390
4,400	4,380
4,410	4,400
4,390	4,400
4,410	
4,400	
4,400	
IIN. REQ.	2500

DOUBLE SHEAR STRENGTH POUNDS / PSI							
TOO SHORT TO TEST PER							
NASM1312-13							
MIN REQ							

HARDNESS							
ROCKWELL "C" SCALE							
REQ.	24 - 37 HRC						
SAMPLE SIZE	13						
ACTU	AL RESULTS						
30	6-37 HRC						

	METALL	JRGICAL EXAMINATIO	N
Discontinuities	V	Carb/Decarb	
Grain Flow	V	Microstructure	· 🗸
Grain Size	V	Apppearance	. 🔽
Thread Insp	pection 5 - ASME B1.3	Bystem ☐ System 21 22	n ☑ System ☐ 23

TEST CERTIFICATION

WE CERTIFY THAT THE PART NUMBER, LOT NUMBER, AND SAMPLES REFERENCED ABOVE HAVE BEEN TESTED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATION

FOR THE TESTS REPORTED HEREIN. THIS CERTIFICATION SHALL NOT BE RE-PRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF MAC FASTENERS, INC.

NDT/ ADDITIONAL TESTS	
Magnetic Particle Inspection per ASTM E1444	
Liquid Penetrant Inspection per . ASTM E1417	
Recess Torque Test	
Head Marking	v

Quality Assurance Representative

AS9100C REGISTERED SAI GLOBAL - 0058029 MAC FASTENERS, INC. 1110 ENTERPRISE OTTAWA, KANSAS 66067

HEAT TREAT CERTIFICATION

CUSTOMER: B/E AEROSPACE

DATE: 06/19/13

PO NUMBER: 0LTJ29

MANUFACTURED QUANTITY: 148,500

LOT NUMBER: 65918

MATERIAL: TYPE A286

PART NUMBER: MS27039C1-08

REVISION: 3

REQUIRED HARDNESS:

24 - 37 HRC

SAMPLE SIZE:

13

HARDNESS:

36-37 HRC

HEAT TREAT SPECIFICATION AS APPLICABLE: MIL-H-6875/AMS-H-6875/AMS2759/AMS5853/PS-1001

The fasteners referenced in this report have been processed, inspected and certified by the Heat Treat Contractor in accordance with all applicable drawings and specifications. Heat Treatment has been verified in accordance with procurement specification and part drawing, by metallurgical and mechanical testing as applicable. Evidence of compliance as well as certification from the Heat Treat Contractor is on file and subject to examination upon request.

QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Regestered Company - SAI GLOBAL - 0058029

DE TRAY Plating Works

Specialized Electro-Plating and Polishing
Nickel Passivate
Copper Bright Dip
Decorative Chrome Strip Copper
Satin Chrome Descale
Zinc

Cedmium

10405 EAST ELEVENTH STREET • INDEPENDENCE, MISSOURI 64052 Phone (816) 252-8411 Fax (816) 252-8527 • E-mail : DeTrayPiating@Aoi.com

Passivate Treatment per QQ-P-35C/SAE AMS QQ-P-35/AMS 2700

CUSTOMER: Mac Fasteners

Lot#: 65918

PART NUMBER: MS27039C1-08

PROCUREMENT SPECIFICATION: n/a

OTHER CONTRACTURAL REQUIREMENTS:

MATERIAL: A286 QUANTITY: 920 lbs

INVOICE NUMBER: 170730

Certification Statement:

We certify that the above referenced lot was processed, tested, and inspected in accordance with QQ-P-35C/SAE AMS-QQ-P-35, AMS2700 and part standard.

DE TRAY PLATING WORKS

NAME: COMUST

JOB TITLE: VICE-PRESIDENT

DATE: 6/17/2013



$m{B}_{ ext{ROWN-PACIFIC}}$, $m{I}_{ ext{NCORPORATED}}$ 13639 BORA DR./ SANTA FE SPRINGS / CALIFORNIA 90670 (562) 921-3471 • (562) 921-7012 FAX

MATERIAL TEST REPORT

F.O.B.	\$FS	SHIP VIA	TDLogistics	JOB NO.	1.	NVOICE NO. -0- 78239
SH-P +0 SOLD +0	MACFASTENERS 1110 ENTERPRIS OTTAWA, KS 660 MACFASTENERS 1110 ENTERPRIS OTTAWA, KS 660		E STREET 67 , INC. E STREET	ORDER DATE 09/28/12 CUST. P.O. NO. 78285 DUE DATE 04/30/13 6CO11	3.5	THIS MATERIAL WAS MANUFACTURED AND TESTED IN CONFORMANCE WITH THE NOTED SPECIFICATIONS. THE INFORMATION PRESENTED HEREIN IS CORRECT AS CONTAINED IN THE COMPANY RECORDS. FACILITY IS MERCURY & RADIOACTIVE FREE. BY G. MORENO, LAB 4/30/2013 GM
<u> </u>	OTTAVA, A		JCT ORDERED	QTY. ORDERED		DFAR 252.225-7014 ALT. 1 COMPLIANT
	0.328 DIA TY CONVERTED 0.1876/0.188 COATED CC	D TO 6 DIA	-286 SEAMSAFE MIRAFLEX	2500		KNOWINGLY OR WILLFULLY RECORDING FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL LAW, TITLE18, CHAPTER 47.

SPECIFICATIONS
CAP OF 5853C 5731L 5737P

GRADE	MIL	L NO.	HEAT NO.
A-286	'	18	45FM

MN: 23 P: .014	AL: .20 TI: 2.08 B: .006 CB: TA: TA:
CR: 14.60 MO: 1.18 CO: .05 V: .21 CA: MG: ZR<.01	CU: .07 SE: N: FE: 56.62 PB: <.0001 BI: <.00001

ASTM GRAIN SIZE: 7/8
ALLVAC,USA

MACRO: MICRO: OTHER:

	MECHAN	ICAL PR	OPERTIES A	ND CAPABILIT	γ		
AS SHIPPED PROPERTIES	TENSILE, KSI 1	06.1	YIELD, KSI		% ELON		
	% RA		HARDNESS		SHEAR,	K\$I	
ETT'F	TENSILE, KSI	YIELD, K	SI	% ELON		% R.A.	
STRESS RUPTURE	1200F	STRESS	65	HOURS 48	3.0	* ELON 16.6	
	1200F	STRESS	70	HOURS 48	3.0	% ELON 15.6	
H.T. PROCEDURE 1650	F 2HRS W/Q, 1	325F 1			% ELON		
	TENSILE, KSI	63.4	YIELD, KSI	109.7		28.1	
	% R.A.	56.0	HARDNESS	RC 33	SHEAR,	KSI	
H.T. PROCEDURE	1800F 1HR	W/Q,	1325F 16	HRS A/C		•	
	TENSILE, KSI 1	60.5	YIELD, KSI	102.0		28.1	
	% Pl.A.	55.5	HARDNESS	RC 30	SHEAR,	KSI	
H.T. PROCEDURE	1250F 8HRS A	/C					
	TENSILE, KSI	75.0	YIELD, KSI	138.9	% ELON	28.0	
	% R.A.	55.3	HARDNESS	RC 31	SHEAR,	KSI	

Ingot# Traveler(s) Heat # CERTIFICATE OF TEST 75828 % A 45FM Page 1 of 6 Rev 0 ATI Allvac 4374 Lancaster Highway Richburg, SC 29729 Phone (803) 789-3595 Customer Name Purchase Order .328° Rd. BROWN PACIFIC INC. M2695C-301 13639 Bora Drive Weight / PCS Santa Fe Springs, CA 36 33035 lbs Date: 03/04/2013 Quality Auditor: Tina Coletti CONDITION SHIPPED SURFACE: Hot Rolled; Descaled HEAT TREAT: Mill Annealed / Direct Quenched SPECIFICATIONS S-400 10/15/2012 S-4001 06/18/12 HEADER REMARKS/ Capability: AMS 5731 Rev. L AMS 5732 Rev J AMS 5734 Rev K AMS 5737 Rev P Chemistry only: AMS 5853 Rev C C50T35 Rev 84 Ad7 ASTM A-453 Rev 2011 Type 660 Capable of: AMS 7235 Rev. D CR EQ = Chromlum Equiv Ti Co Al REAT AVG <.01 .024 <.0003 .23 1.18 .05 2.08 .20

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Travel	er(s)	Heat	t# Ingo	d#					•			
75828	A	45F	M	AT	l Alivac 437	4 Lanceater Higi	TWRY	Richburg, SC	29729 P	hone (803) 78 9	1595	Page 2 of 6
	Fe	cu	ni	P	Сb	Ta	W	v'	Cb+Ta	Ti+Al	Ni+Co	¥
HEAT AVG	56.62	.07	24.58	.014	.02	<.01	.06	.21	.02	2.28	24.63	-
•	/			•	c	CHEMISTR	Y (TRA	CE)		!.		
trese suc	Bi	Ca	Pb	Se	. Ag	g . S	Ъ					

CHEMISTRY METHOD

ELEMENTS TESTED BY METHOD

.0005

WET-PB	PB
WET-BI	BI
WET-SE	SE
WET-SB	SB
OES-CA	. CA
OES-AG	AG
CS-CS	C,S
OE\$-B	В

<.00001 <.0010 <.0001 <.00005 .0001

CHEMISTRY REMARKS

Chemistry tested at ATI ALLVAC unless otherwise noted.

CHEMISTRY ANALYTICAL METHODS

CS = Combustion/IR Detection

GAS = Inert Gas Fusion

LADLE AOD

OES = Spark Optical Emission

XRF = X-Ray Fluorescence

WET = Graphite Furnace Atomic Absorption (Se) and Mass Spectroscopy (Pb,Bi,Sb)

Traveler(s) Heat # Ingot# 75828 ATI Alivac 4374 Lancaster Highway Richburg, SC 29729 Phone (803) 789-3595 Page 3 of 6 45PM Capability Tensile Test Temp .2% Yield .02% Yield Test Tensile Heat Treat Tested At Operation Code Dir F kal 1650EK ROOM 28.1 WESTMORELAND 163.4 109.7 56.0 .1618 WESTMORELAND 1800MB ROOM 28.1 55.5 .64 102.0 .1612

Test Dir: L = Longitudinal, T = Transverse, ST = Short Transverse, LT = Long Transverse,

TC = Transverse Center At Size, TM = Transverse Mid-Radius At Size,

PC = Pancake, DB = Drawbar, FD = Paddle, TT = Top Transverse At Size,

BT = Bottom Transverse At Size, LC = Long Center, TX = Top Transverse Mid-Radius At Size,

LM = Longitudinal Mid Radius, LS = Longitudinal Surface, TS = Transverse Surface

Operation: SUPER = Crosshead Sep Rate of .10 inches/minute

ROOM

Capability Stress Rupture

	Ht Trt	Teet	Temp	Load	Life	Upid:	Life	Upid2	Life	Upid3	Life	Upid4	LHe	UpidS	Ll!o	Upid6	Lite	Upid7	Life	%E	L		Bar	Type
Ingojii	Code	Dir	F	Kei	Hrs	Kai	Hrs	Kei	Hre	Kel	Hrs	Kai	Hrs	Kai	Hrs	Kai	Hra	Kal	Hrs	4D	5D	%RA	Diam	Ber
	1650EK	LC	1200	85	48	70	63	75	88-7	_	-	-	-	-	-	_	-	-	-	18.6		38.8	.1606	CSN
Note	ch A sdius =	.0045	1	BAR RUP	TURED II	N THE SA	HTOOM	SECTION	l						Test	led At	WEST	IORELA	ND					
	1800MB	Γ¢	1200	70	48	75	63	80	71.0	-	_	-	-	· -	-	-	-	-	-	15.6		20.3	.1800	CSN
Not	ch Radius =	.0045	(BAR RUP	TUREDI	N THE SI	нтоон	SECTION	ı						Tes	led At	WEST	NORELA	ND					

Test Dir: L = Longitudinal, T = Transverse, ST = Short Transverse, LT = Long Transverse, TC = Transverse Center at size, TM = Transverse Mid-Radius At Size, PC = Parcelle, DB = Drawber, PD = Paddle, TT = Top Transverse At Size, BT = Bottom Transverse At Size, LC = Long Center, TX = Top Transverse Mid-Radiua At Size, Ltt = Longitudinal Mid Radiue, LS = Longitudinal Surface, TS = Transverse Surface

Type Bar: TSR = Smooth, CN = Center Notch, CSN = Combination Smooth and Notch

LC

48A

HARDNESS CAPABILITY

ingot	Heat Treat Code	Hardness val	Hardness Type	Tested At
	1650EK	33	HRC	ACUREN
	1800MB	30	HRC	ACUREN
	48A	26	HRC	ACUREN

ACUREN

.329

irav	reler(s)			Heat #	Ing	ot# .
828	A			45FM		ATI AllVac 4374 Lancaster Highway Richburg,
						TENSILE/STRESS RUPTURE HEAT TREATMENT
	HT Code:	- 18SOEK		Furnace		
				Cool Rate	Cool	•
Location	Temp	Hours	Mins	Per Hrs	Code	
	<u> </u>	HOU/IS	Milita	(F)		
PLANT						MILL ANNEALED / DIRECT QUENCHED
LAB	1650	2	•		WQ	•
LAB	1325	16			AC	
			3	Furnace		
Location	HT Code Temp F	Hours		Cool Rate Per Hrs (F)	Cool Code	
Location	Temp			Per Hrs		MILL ANNEALED / DIRECT QUENCHED
	Temp			Per Hrs		
PLANT	Temp F	Hours		Per Hrs	Code	
PLANT LAB	Temp F 1800	Hours 1		Per Hrs	WQ AC	
PLANT LAB LAB	Temp F 1800 1325 HT Code Temp	1 . 16		Per Hrs (F)	WQ AC Cool	
PLANT LAB	Temp F 1800 1325 HT Code Temp	1 . 16		Per Hrs (F)	WQ AC	

MECHANICAL REMARKS

Phone (803) 789-3595

Page 4 of 6

The tensile and hardness performed for Heat Treat Code 48A are As Shipped tests.

METALLOGRAPHY

GRAIN SIZE (As shipped cond.): Avg. ASTM 9 Tested at Acuren

MACRO

Material has been macro inspected and ultrasonic tested at intermediate billet to clear melt-type (piping, inclusions, etc.) defects.

REMARKS

75828

Material has been produced, sampled, inspected, and tested in accordance with the customer purchase order and referenced specifications and conforms to the requirements unless otherwise noted in this certificate of test.

Any deviations to specification or customer purchase order requirements relative to testing, test values, hot working fixed practices, have been resolved in writing with customer prior to shipment.

The recording of false, fictitious, or fraudulent statements or entries on this document may violate Federal statutes, including but not limited to Title 18, Chapter 47 of the United States Code, and may be punishable as a felony.

If customer purchase order does not specifically reference a revision to a specification, ATI Allvac will work to the latest revision on file and in effect at time of order placement.

Test methods are per the latest ASTM Standards, currently recognized industry practices; or as agreed upon between ATI Allvac and customer.

Any chemical elements analyzed and found to have values below the actual limits of detection may be reported as < less than or reported at the detection level.

When values are reported to the significant places called for in the specifications, rounding will be done in accordance with ASTM B-29.

This is to certify that during manufacturing, handling, testing and inspection, this material did not come in direct contact with mercury or any device employing a single boundary of containment.

This Certificate of Test shall not be reproduced except in full, without the written approval of ATI Allvac Quality.

No weld repair has been performed on this material.

Material Safety Data Sheets (MSDS) - View or print from our site: www.allvac.com. Printed copies available on request from the ATI Allvac Sales Department.

Allvac products have not come in contact with radioactive, fertile or fissionable materials during manufacturing or processing.

This material was melted and manufactured in the United States of America unless otherwise noted in this Certificate of Test.

Traveler(s)

Heat #

Ingot#

75828 A

45FM

ATI Alivac 4374 Lancaster Highway

Richburg, SC 29729

Phona (803) 789~3595

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SPECIAL REMARKS

MELT METHOD: AOD/ESR

GEAE S-400 (GT193) supplier codes: Allvac Monroe - 87012, Allvac Lockport - T1226,
Acuren - T7605, Westmoreland T7869

TEST METHODS: C/S/O/N = ASTM B1019 (2011), KRF = ASTM B572 (2002A/2006*2), ASTM B322 (2012), ASTM B1085 (2009), ASTM B2465 (2011*1), OBS = ASTM B415 (2008), ASTM B1086 (2008), GFAA = ASTM B1834 (2011), ICP-OBS = ASTM B2594 (2009), ICP-MS = ASTM B2823 (2011); RTT = ASTM B8/B8M (2011); BTT = ASTM B21 (2009); Stress Rupture = ASTM B139 (2011), ASTM B292 (2009*1); Creep = ASTM B139 (2011); Charpy = ASTM B23 (2007A*1); Fracture Toughness = ASTM B399 (2009*2); Rockwell Hardness = ASTM B18 (2011); Brinell Bardness = ASTM B10 (2012); Microcleanliness = ASTM B45 (2011A); AMS 2300 = AMS 2300 (L); Grain Size = ASTM B112 (2010), ASTM B930 (1999/2007), ASTM B1181 (2002/2008); Macro = ASTM A604 (2007/2012); Sampling = AMS 2371J.

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B/E Aerospace, Inc.

CONSUMABLES MANAGEMENT

Tel: +1.305.925.2600 • Fax: +1.305.507.7191 • www.beconsumables.com
Remit to Address: 88289 Expedite Way, Chicago, IL 60695-0001
Wire instructions: B/E Aerospace Consumables Management • JPMorgan Chase Bank New York
ABA: 021000021 • Account: 304639273 • SWIFT: CHASUS33 • CHIP UID: 0002

INVOICE NUMBER HSMZ68

PAGE 1

5040 10:09

DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY, ON CANADA K6A 1K7

SHIP TO:

DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY, ON CANADA K6A 1K7

HISTORY REPRINT

ORDER NO				111	STORY REP	TATLA	.		
OHDER NO	D.		DATE	SHIP VIA			TERMS		SHIPPING TERMS
PO234	495		03/25/14	FEDX INTL	P1 COLL	Ì	NET 45		FOB-CARSON
TEM NO.	QUANTITY	PART NUM	BER AND DESCRIPTION		PRICE	UNIT	BACK ORDER	SHIPPED	AMOUNT
	1	x# 06-	120-9796						
15	225	MFR: CTRL# LOT#:		ES INC	7.500	EA		225	1,687.50
		1	:9A991						
·		expo with Dive	e commodities orted from the the Export A ersion contrar OLTS AND NUTS	United Stardministration of the U.S. 14	es in acc n Regulat	ord ion	ance s.		
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	FREIGHT .					i E			
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		632-3	336					SUBTOTAL HANDLING DISC/ALL INCM FRI FREIGHT	G: 0.00 G: 0.00 G: 0.00

ALL ITEMS ARE SUBJECT TO A 100% RESTOCKING CHARGE.

SHIPPED FROM: 1351 CHARLES WILLARD ST, CARSON, CA 90746

CERTIFICATE OF COMPLIANCE

REF: SWO 12576

REV.

Lot:

INDUSTRIES, INC.

Divisions: Voss Aerospace • Clamp Technology • H.E.A.T. (Heat Exchange Applied Technology) 2168 WEST/25TH STREET • CLEVELAND, OHIO 44113-4172 • 216/771-7655 • FAX: 216/771-2887

CUSTOMER:

TRISTAR AEROSPACE INC PO BOX 542468 DALLAS TX 75354

REFERENCE:

CUSTOMER PURCHASE ORDER NO:

CUSTOMER PART NO:

CUSTOMER (OR VOSS) DRAWING NO:

PART NAME:

VOSS PART NO:

NO. OF PIECES:

AE187AV

MS21920-20

MS21920-20

BAND CLAMP

MS21920-20

5000

We hereby certify that parts and/or materials included in the above shipment have been manufactured and/or processed in compliance with all applicable purchase order and drawing specifications. In addition, data of chemical, physical and mechanical properties, where required, are on file for examination.

VOSS INDUSTRIES, INC.

DONALD G. HENSMAN

Title

QUALITY ENGINEER

Date

JULY 12, 1999

FORM: QF-60

White - Customer Copy; Canary - Office Copy; Pink - Shipping Copy; Goldenrod - Shipping Copy; White - QC Copy